

KNOWLSON'S
COMPLETE COW DOCTOR.



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Price 25 Cents.



THE COMPLETE

CATTLE DOCTOR.

A TREATISE ON THE DISEASES OF

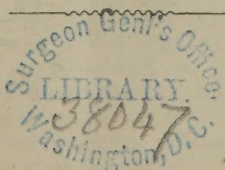
Horned Cattle and Calves.

WRITTEN IN PLAIN LANGUAGE, WHICH THOSE WHO CAN READ
MAY EASILY UNDERSTAND.

THE WHOLE BEING THE RESULT OF
SEVENTY YEARS EXTENSIVE PRACTICE OF THE AUTHOR,

↓
JOHN C. KNOWLSON.

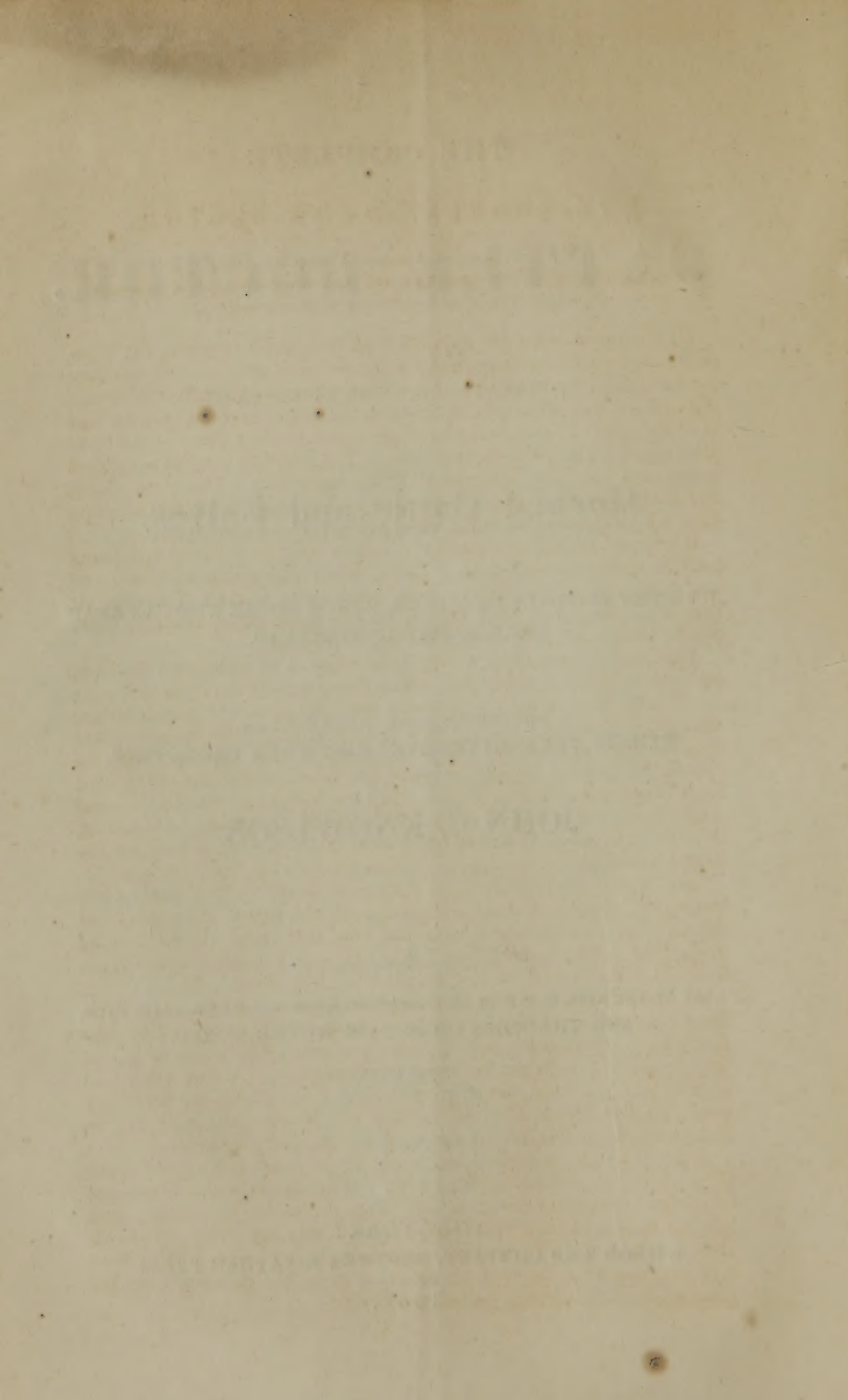
MANY OF THE RECIPES IN THIS BOOK ARE WORTH ONE HUNDRED DOLLARS EACH,
AND THE WHOLE ARE NEW TO THE WORLD.



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THE COMPLETE COW-DOCTOR.

OF ALL CREATURES IN THE CREATION, FOR MAN, THE COW-KIND IS THE BEST.

How many families are supported by this useful creature, the Cow, of which we have in this country many different sorts, caused by cross-breeds from other countries. I need not enumerate the different breeds; they are so well described by history, that a full account may be had of them; but I think it will not be amiss to class those of the cow-kind together, they are so numerous. The first that I intend to explain is our own breed, as being most under our notice. The Urus, Zebu, and Bison, are all of the cow-kind, as well as many more, and all chew their cud, or ruminates, in the same manner as the cow does.

It will not be amiss to show the reason why they throw their meat back to chew a second time. The great Creator of the universe, who made the cow, took care to form every thing in them to answer its end, for if they had been formed to live upon other animals, there would have been little or no chewing of the cud.

This useful creature is a very great support to many poor families, and was more so in times past, when the commons were not inclosed; for I have seen commons, or waste land, lay almost to every village, where the poor could keep a cow or two at very little expense; but now the land-owners have deprived many of that comfort: still the cow is the greatest support to many, for they have the use of the milk for themselves and their children; then the butter and the cheese; and when the cow has calved and got fat, it is used for food. Animals of the cow-kind ought therefore to be most taken care of, as they are the most useful. Much more might be brought forward, but let this suffice.

The cow is made with eight cutting-teeth on the fore part of her lower jaw, and when about sixteen months old, two of the middlemost fall out; at twenty-two months the two next them; in six months more, two more; and at four years old, a full mouth: at the same time the horns fall off, and others grow in their place.

To know the age of a beast, observe as follows. I have shown you the falling out of the teeth; but here I make another remark, that the cow's teeth are broader, and of a blacker color, with a full mouth at four years old; and then the horns begin to grow. A cow has a full horn at four years old, but it grows larger every year; and for every year's growth, leaves a wrinkle round the horn's root, beginning at four years old, before which age they are not easily discovered.

A cow's tongue is prickly and horny at the small end, on the upper side, which she gathers her food with. When feeding, she thrusts out her tongue, winds up the grass, and brings it over her fore-teeth; then lifts her head a little, breaks it off, throws it into her gullet, and swallows it whole, and so proceeds till she has got her stomach full; then lays her down to throw it up again, to give it a grinding with her grinding-teeth, commonly called axle-teeth.

Nature has furnished the cow, above all animals, with an appetite for coarse and simple nutriment, and has also enlarged her intestines, for she has four stomachs, which I do not remember having ever seen mentioned in any cow-doctor's book.

The first stomach is called the paunch, or great belly, which receives the food after it has been slightly chewed. The second is called the honey-comb, and is so nearly connected with the other that it may be called a part of it. When these stomachs are pretty full, the beast lays down to ruminate, and the grass which it has got begins to heat and swell, which very often forces the food up the gullet again, which may be called throwing up, yet without pain. Clover, (too much being taken at a time,) by heating and swelling, has killed many a cow, and would have killed many more, had they not been found in time, and by those that knew how to cut them. Between the second and third stomach, is a short strait passage, through which most of the juice is forced into the third stomach; but the rough meat which cannot pass, is returned again two or three times, till it is small enough.

The third stomach is called the manyfold, where the food undergoes a strong operation among the shelves and flaps which it contains. In fevers, I have known the hay, or grass, which goes through the small passage into the manyfold, become hard and dry; the heat of the body having dried up the juicy matter; so that I could wish all people that have a cow in a fever, to give her something loosening to pass on to the third stomach, to prevent the food from growing dry therein.

The fourth stomach is called the wide-gut, and is the beginning of the intestines, which are in length, between the stomach and the fundament, thirty-seven yards, more or less, according to the size of the beast. Nature has formed this ruminating animal very differently from the horse, which does not chew its cud. From the fourth stomach the bowels are strong and fleshy, and wider than in any animal that does not chew its cud; but all that chew the cud are nearly the same.

The climate and pastures of our country are excellently adapted to these animals, and the verdure and fertility of our plains are perfectly suited to their manner of feeding; for, wanting the upper fore-teeth, they love to graze in high, rich pastures, in which few countries excel our own.

Little regard seems to be paid by this animal to the quality of its food, for it makes no particular distinction in the choice of its herbage, but indiscriminately and hastily devours all. For this reason, in our pastures, where the grass is rather high and flourishing, the cow thrives well; indeed there is no part where they milk and thrive better than with us, for our pastures supply them with abundance, and they in return seem to throw back more than they take from the soil; for it is well known that where horses or sheep are put, the pasture grows worse every year, but that where cows are kept, the land becomes richer and fatter every year.

This animal is formed by nature to bear cold, for in many parts they lie out all winter, and are not taken in at any time, unless when ill. In some places they are housed in the winter season; but I would advise those that keep their cows in the house not to keep them too warm.

Open shades are the most proper places to lay cows and young beasts in, provided there be a fence or screen against the north and east winds, which are dangerous for bringing on disorders, especially the crook, which is a heavy disorder in many places where they lie their cattle bare, and exposed to the north-east wind.

Some people will lie a cow in a stable where there are two or three horses, with the place closed up, which must be very unhealthy for a cow. I should rather choose an open place, such as a cart-house, than lie a cow among horses in a warm stable, for in my time I have known beasts suffer much from such treatment; nay, even lose their lives. I am of opinion that beasts are seldom too cold; only screen them from the north and east winds, and keep them dry.

I do not know a greater grievance, or any thing that is more dangerous for a cow, than to lie it in a place which the rain drops through; therefore, in shades or houses, endeavor to prevent this.

In some places the pastures lie at some distance from the houses of the owners of them, and they send a boy or a girl to fetch up a cow to milk, perhaps near a mile, twice a day. What hurt this may do to the animal I cannot say; but if one would go to milk it in its pasture, it would save two journeys a day for the youngsters, and two for the cow; and I am certain it would be better for the latter, and no worse for the former.

When cattle are put to their summer pastures, they ought to stay there, provided there be sufficient water for them; although I do not commend carrying water if the animal can fetch it for herself, as most men and women are fond of indulgence, and perhaps might carry little enough, to save themselves, and give the beast a scanty allowance: besides most cows are nice in their taste, and do not take it freely out of a pail, but had rather choose for themselves. Another misfortune by sending boys and girls is, that they don't milk the cows clean; so that all owners of cattle should be very careful whom they employ, and not trust too much to children.

I have known young people, and even some that have come to age, but not to reason, that have gone in summer time once or twice a day to milk, when the cows have been in the red-water all the time, and they have not discovered it till they could get no milk, when they said, *I think the cow is poorly*, or, *somebody has milked her, for she gives no milk*. How soon may a cow be lost, or an ill report set on foot, by such misconduct as this! Nay, I have even known a poor inoffensive hedgehog brought into the blame! Would a man of reason suppose that this small animal could suck a cow! No; its mouth is not calculated to hold a cow's pap.

It sometimes happens that if a cow is not milked clean, one quarter, or more, of the bag becomes inflamed by this neglect, and then they say she has laid on a pismire hill, or on a bunch of nettles. I do not say this is never the case, but I say it seldom happens, and the other too often. Sometimes the beast has a sore pap, and is uneasy to milk, for nature has given feeling to every creature; but the truth is, that the young men or women are more afraid of themselves than of the cow, and leave the milk in the pap, excusing themselves by saying that

the bag is bigger from the soreness of the pap; but in reality it is from the want of milking clean.

Beasts feeding in summer pastures should be looked at every day, but sometimes they are neglected. Servants will go to see if they are there, but not to notice whether they are well:—if there be the number, no more thought is taken for their safety. Masters ought to examine their cattle themselves, if opportunity permit, or employ a herdsman that they can trust, for beasts are subject to many disorders and misfortunes, and should be well examined every day; for to check a disorder at the first onset, is half the cure.

I am going to add another remark or two. At the latter end of summer, when cattle are put into clover, or fog-fields, let them stay in a short time only, not quite to fill themselves. This done a few times, for about a week together, would save the lives of many; for what is it that causes them to swell so much with clover, but eating too much? and the clover received into the paunch gathers heat and begins to swell, till the stomach cannot contain it, and then it is said that the beast is burst by clover.

It is the very same thing that causes the fog-fever; but fog not being so easily fermented as clover, (being of a drier nature,) brings on an inflammation, and flies to the lungs.

When you bring your cattle into the house, be careful to examine the stand, that there be no small stones to bruise their knees, at lying down or getting up, for I have seen many a great grievance in the knees of beasts from this neglect; also, be careful to round the stones that form the corners of your group, that they may not hurt their hind legs, for I have known many a one receive very great damage by neglecting it, especially if the stand was too short.

As I have given you a few remarks to guard you against them, I proceed to explain the disorders incident to cattle, and the proper treatment of them, for proper treatment is half a cure.

I desire you, above all, to avoid giving too many medicines, or using every medicine that may present itself. I very well know that there are many pretenders, but few truly understand either the disorders or the medicines they prescribe, and how can a man or a woman prescribe proper medicines when ignorant of the disorder and of the nature of the drugs they would employ. They ought to be fully acquainted with the nature of drugs, so as to understand their qualities as well as the quantities to be given, and how they will operate, whether by stool, urine, or perspiration; also to be certain how far the disorder is advanced. Another thing to be considered, is the age and constitution of the animal; for a strong, healthy beast can bear as much more as a weak one. A beast under three years old is to be treated as such, as its bowels are tender: as for a bull, there has been nothing said on that head, but I recommend people to consider them in the same manner, for a bull, or an ox, turned four years old, and proportionate in weight and strength, can surely bear more physic,—but more will be said on this head in its place.

There are some little diminutive creatures of the cow-kind that are very small indeed, and their intestines in proportion.

Having given you a small account of their frame in breeding, I shall turn to explain the disorders of cattle ; but, before I begin to treat upon physic, I advise all to be sparing on that head, and to use no more than is needful, and also to be careful to get good drugs, or they will not answer the end, for there are many sellers that neither know the drugs nor the use of them ; and wholesale druggists are so numerous that they are flying into all the grocers' shops to sell their drugs, to get gain, to such as do not understand them ; then they can put off any thing in the form in place of the drugs, for compounds are not easily known even by experienced people, much less by those that are ignorant of them.

THE FOG FEVER.

The Fog Fever, or Fog Sick, is a disorder which happens in autumn, but scarcely any time in the year besides, and is well known by many, but not by all ; therefore I shall describe it as well as I can. The cause chiefly is, taking too much fog into the first stomach, which swells and ferments, and forces itself forward to the second, and cannot pass any farther, but is forced back again, which brings on a heat, and presses so hard upon the artery that leads from the cavity of the heart to the lungs, or lights, that it causes the lungs to blow up to a larger size than usual ; then comes on a panting and heaving in the flank, shortness of breath, thrusting out the head, wind forcing up the gullet, or throat, and coughing or belching every two or three minutes. After the cough has ceased, the animal becomes a little easier for a short time :—this is the first seat of the disorder. After this the beast grows stiff in its hide, dry in its nose, works more in its belly, loses its milk, and becomes weaker.

I have known beasts continue in this disorder for ten or twelve days, but gradually get worse after the fourth or fifth day, there being so many large and small pipes in the lights, that they may be blown up nearly to any size. A beast that has a narrow chest suffers most in this disease, the lights forcing themselves so hard against the ribs and midriff as often to cause great uneasiness to it, mostly forcing its dung, and often in small quantities. Care must be taken not to drive the beast too fast in this disorder, or it will drop down dead.

Endeavor to screen cattle as much as possible from the cold north and east winds, and particularly from the north-east, for that often is the means of bringing on this disorder, as it first dries up the pores of the skin, then dries the fog, and the fog being bad and dry, causes this disorder to be more prevalent. If the season in autumn be warm and temperate, and the fog good, there are not half the number in this disorder ; but high, strong winds often augment it.

Dry frosts inflame the lungs, also white frosts ; but if the weather be mild I would not advise any to take their cattle into the house the first three or four days : dry meats are very pernicious. I have known some take a cow in at night, give her hay, and turn her out again in the day-time to the fog ; but giving hay and then grass, is quite contrary to reason : only consider how the stomach of the animal is made, and then glance at the disorder it is laboring under.

If the beast get no better during the first three or four days, it must be getting worse. Be careful to examine the pulse; and should it be high, quick and strong, take three or four pints of blood in twenty-four hours; and if the pulse continue so, take more blood, but not quite so much as before.

When you find the beast beginning in this disorder, give the following:

8 oz. of Epsom Salts,
2 do. Liquorice Powder,
1 do. Elecampane Powder,
1 do. Salts of Tartar,
1 do. Spanish Juice.

Cut the juice small, and give it a light boiling in three pints of water, till it be dissolved; then dissolve the salts in the water with the juice, while the water is hot, and let this stand till cold. Get two or three turnips, skin them, cut them into thin slices, put them in a pan, and cover them with water; then boil them till soft, and add two ounces of butter. When nearly cold, give all together, and repeat it every day till better. From the fourth day to the sixth give the following:

$\frac{1}{2}$ oz. of Gum Scammony,
2 do. Salts of Tartar,
2 do. Spanish Juice,
10 grains of Calomel.

Powder the gum small, dilute in soft water, and give it about milk-warm: repeat it only once a day.

On the sixth or seventh day there will be a change in the disorder, and great danger of its turning to a mortification. Should that take place, the beast will have a low, quick, and very irregular pulse; it will lower its head, turn yellow in the whites of its eyes, discharge a yellow, glueish matter at its nostrils, and work more in its body, but not heave so strong; it will also grow weaker, and mourn much. In this case, which does not often happen, give the following:

1 oz. Peruvian Bark,
 $\frac{1}{2}$ do. Saffron,
2 do. Liquorice Powder.

Give these in elder-berry wine if you have it, if not, in white rose-water. I again request you not to stir your beast in this disorder, if you can help it; for change of air will hurt it, and it cannot bear stirring: be careful to add the turnips every day, and keep the animal clean, and neither too hot nor too cold, and let whatever you give it be of a diluting nature, and not too much of it. I could wish some person to hold a quart of hot vinegar under its nose, for the steam to go up the nostrils, and cause a discharge from them, for that is the way by which the disorder of the lungs is relieved.

Keep the beast covered with a cloth, but not too warm. Some people will think it near dying when it is almost well, for the disorder both comes on and goes off suddenly.

Should the beast turn very loose in its dung, do not be hasty in stopping it, for the disorder is often cured by a looseness, but seldom by urine. Much might be said upon this disorder, but I do not mean to enlarge the book more than is necessary, nor to clog the disorder with many medicines. Some lay down one receipt after another, and

the best last, as they pretend. Why do not such persons put the best first, and leave the other out? Although I will allow that some medicines will do for one and not for another. The medicines here prescribed are for a middle-sized beast; for a stronger, add a little more to them; and for a weaker, diminish according to its strength.

POISON, OR SWELLING IN THE BOWELS.

This disorder is nearly the same as eating too much clover, though it is not clover that causes it, but too much herbage being thrown into the first stomach, which heats and swells before it is thrown back again; and when the weight presses upon the artery or blood vessels, it causes a stagnation of the blood, or what is called a stoppage of blood, and in this case, unless found in time, the animal will soon be dead.

The first thing to be done is to let blood pretty freely, then give a pint or three gills of sweet oil, or pale rape oil; or, if that cannot be got, give ten or twelve ounces of melted butter. If the beast be able to walk, walk it about a little, and if that will not answer the end designed, stab it with a knife an inch broad at least; if broader no worse, as the place, or orifice, where it is cut, is seldom too wide, but mostly too small: be careful to keep off the loin, for when the animal is so swelled it is very deceiving: the right place is *half way between the rib and the huck bone, on the contrary side to that you milk on.*

After the wind has got out, cover the hole with a plaster of any sort to keep it from letting wind in; and when the disorder has subsided, put a strong pin across the wound, and tie it close with a strong thread; then lay on a plaster made of Burgundy pitch.

POISON BY DISAGREEABLE HERBS.

This often happens in some parts of our land, where grows what is called wild saffron, deadly nightshade, foxglove, hemlock, or yew: any of these will cause a beast to be disordered, or even take their lives if not assisted. To know the disorder, observe the following: It will swell in the eyelids and lips, also in the barren and the teats of the bag; the body will swell in some places very much, and in others not so much. These are the most certain marks when a beast has received poison; and if not assisted, the disorder often proves fatal. Many will give eggs and chamber-lye, but in my opinion they are neither of them likely to give relief in this dangerous case.

When you find a beast in this disorder, bleed it well, and give six ounces of castor oil; if that be not at hand, give it a pint of salad or pale rape oil; and if these cannot be come at, melt eight or ten ounces of butter, and give it in gruel. I have known fat, from the top of broth where fat meat has been boiled, assuage this disease; but I wish all that have cows to keep sweet or pale oil by them. Pale oil will answer the same as sweet oil in many cases.

When a beast has received any of the pernicious herbs before mentioned, especially the yew-tree, it has not done with the disorder when the swelling is assuaged, for yew is hard of digestion, and will not soon pass the second and third stomachs: the other herbs mentioned

are also hard of digestion, therefore I advise every person that has a beast which has received any of these pernicious herbs, to give them when the disorder is a little abated, six or eight ounces of oil of castor, which will entirely carry off the offensive herbage.

I have heard many people say that a mouse's nest, or the moss of a thorn, will cause this disorder, but I could never find any that would affirm it for a certainty.

Turnips are so well known for stopping in a beast's throat, that I need not say much on that head: they will cause a beast to swell much, by sucking wind down the gullet into the first stomach. I have known a pint of pale rape oil carry them down, without the use of a turnip-rope. I would advise all that are in the habit of giving turnips, either to cut them small enough, or not to cut them at all; for if the cows cut them to pieces themselves, it seldom happens that they stick in the gullet. Many beasts are much disordered by turnips, for in spring time people will house their turnips to keep them from the frost, and when they come to lie in the house for some time they lose their juicy nature, and grow dry and fuzzy. Giving them straw causes hard digestion, for the turnips cannot be thrown back again to have a second grinding, so that they often lie in the second stomach till heat dissolves them, and they then pass on to the third. At the same time the beast refuses its meat, looks fuller than it ought to do for what it eats, dungs little, and what it parts with is stiffer than it should be; it lowers its head, and is restless to steer. In this case I advise you to give the following, to carry the load from the second stomach.

6 oz. Oil of Castor,
4 do. Syrup of Buckthorn,
This to be given in onion pottage:

And if the beast be no better in twenty-four hours, give the following:

2 oz. Salts of Tartar,
12 do. Epsom Salts.

Dissolve as above in hot water, and give water three or four times a day till better.

I have known great damage done by the improper use of turnip-ropes, in the hands of unskillful people, and many a beast lose its life. I have a great opinion that a small pliable willow, about the thickness of a small walking-stick, with the end you put down the gullet wrapped with tow, or a soft rag, made fast that it may not slip off, would answer. The stick should be four feet in length; and when it springs against the gullet it must be easier for that tender part than a rough rope tearing the inner skin, and in danger of bringing on a mortification. But, whether you use a stick or a rope, be careful to grease well with hog's lard, or butter. I am certain that oil will often carry turnips down, as mentioned before; and if not, they will go down much easier with oil than without it.

I would advise all that use turnip-ropes to have strength to hold the head, and to keep the head and neck as straight as possible, that is, to keep the nose well out; and neither to be too hasty in their work, nor too long about it; for when people are fluttered about any thing, it is not often done well.

RUMINATING, OR THROWING UP THE MEAT UNDIGESTED.

This disorder is so well known, that it needs little explanation; and as I have mentioned the cause, I need not go much further on this head, as any man or woman that looks at a cow will perceive when the meat is thrown up again, and a deal of slaver and water lies before its head. This is chiefly owing to losing its cud, and that chiefly to overloading the stomach, which brings on a fermentation, or inflammation; but it is not to be called a dangerous disorder, although I have known cows continue three weeks in it.

The remedy is, to get the cud as soon as possible, but this cannot be done till the first and second stomachs are emptied, and the contents forced into the third, for which purpose I advise you to give the following:

2 oz. Salts of Tartar, or Pearl-Ash,
2 do. Cream of Tartar,
12 do. Epsom Salts,
2 do. Powdered Ginger.

Dissolve the above in hot water, and give it when nearly cold; and warm water two or three times, till it is wrought off. Fresh mould and salt, (about eight ounces of each,) dissolved in a little cold water, will be a means to get their cud. If the beast do not get better, give the above medicine a second time at three or four days' distance: the salt and mould need not be given till the third day after the medicine.

THE WHITE AND BLOODY FLUX, CALLED LOOSENESS, OR SCOURING.

This disorder is very common among cattle, and weakens them very much. It is soon discovered by their dung, only in the White Flux it has no blood among it. This is the first stage of the disorder, but if it continues two or three days, the Bloody Flux comes on, when their dung is very thin indeed, and they often part with the inner skin of their small intestines, which is commonly called parting with their puddings.

A beast in this disorder loses its strength very fast, its eyes are sunk in the sockets, it hangs its head, and is very listless to steer; its skin wrinkles, and its pulse is low and uneven, and if stirred it is in danger of coming down. Give the following:

2 oz. Tormetil Root, in Powder,
4 do. Bole Armenian, do.
1 do. Grains of Paradise, do.
1 do. Turmeric, do.
2 do. Prepared Chalk.

The above must be given in oak bark tea; to make which, boil a handful of oak bark in two quarts of water for twelve or fifteen minutes, and let it stand till cold, then clear it through a strainer, and mix the above with the liquor. Red wine would be much better, but it is so expensive; or a pint of common brandy and a pint of water will answer full as well as the oak bark tea in this disorder. The beast will want support: therefore, if it refuses its meat, make it some

wheat-flour pottage; but be careful to let your wheat be sound, or it will do more harm than good; and if the beast continue ill, give the following: one ounce of isinglass, dissolved in one quart of hot water; add four ounces of arrow-root, and a quart of blue milk: boil it lightly, and give it nearly cold. Should the mucilage be too thick to give with a horn, add a little more blue milk. If the beast be brought very low, and the disorder still continue, give four ounces of Epsom salts, and two ounces of turmeric, in a little warm water, and let warm water, with a little meal upon it, be given all the time. Keep the animal warm, and stir it little; and repeat the above medicine in two days afterwards.

THE CHOLIC, OR GRIPES.

This disorder is attended with a strong sensation in the bowels; the beast lies down, and quickly gets up again, strikes against its belly with its hind-feet, and looks wild with its eyes; and sometimes the pain is so strong that it would run at any thing near it; it also looks towards its belly, and throws its head upon it.

This disorder is mostly brought on by sour grass, bad hay or straw, water which comes from iron-forges or iron-stone, a sudden change from heat to cold, or snow-water. The remedy is as follows:

1 oz. of Tincture of Opium,
2 do. Spirits of Sweet Nitre,
2 do. Tincture of Senna,
1 Pint of Mint-water.

Give all these together, and you will have a cure in two hours. I have in my time, especially in the last forty-five years, hardly ever found it fail at the first giving, and the trials have been many; but, should it fail, repeat it in three hours, and be careful to give warm water two or three times after, for it always leaves the bowels tender.

THE FRENZY, OR INFLAMMATION OF THE BRAIN.

This is a heavy disorder among cattle, and a long-continued acute fever, the symptoms of which are a constant watching, raving, a disturbed and frightful countenance, small signs of madness, a strong pulse, and much trembling and slavering. I do not know a disease more distressing to a beast, nor one more to be feared, for it is hard to distinguish from madness. The animal is nearly blind, and often tosses its head, till at last a lethargy, or sleepiness, comes on: the eyes look red, from the violent pain in the brain, the urine is of a high color, and the dung black and tough, and very little at a time. The beast will stand much, and a thin rheum will pour from its nostrils.

The first thing to be done is to bleed well, which repeat as often as you think proper. Keep the beast from light as much as you can, and put it in some place by itself, for it cannot bear any noise; indeed I do not know that any thing will be more hurtful to it than noise. In this disease it takes every thing for an enemy; in fact, it is the worst disorder to deal with of any to which cattle are subject. As I have observed that the first thing is to let blood, take three quarts from the neck, more or less, according to the strength of the beast; and then give the following:

1 Dram of Calomel,
2 oz. of Castile Soap,
1 do. Jalap Powder,
1 do. Assafoetida.

Boil two ounces of Valerian root in three pints of water; when nearly cold, strain it off, and mix it with the above, and give all together, but be careful to cut the Castile soap small. You may think that the above is a strong medicine: so it is; but it will thin the blood soon, and strong disorders require strong medicines. In a continuance of the disease the animal sometimes swells much in its vives, the parts that lie between the ear-roots and the jaw-bones; sometimes it is jaw-locked, so that nothing can be got in with a horn, when recourse must be had to a bladder and a pipe, to force the medicine down its throat; and when the swelling appears, be sure to rub well with the following:

2 oz. of Spirits of Sal-ammoniac,
2 do. Oil of Bricks,
2 do. Oil of Turpentine.

Shake the bottle well up, and rub well the part affected.

The next stage of the disorder is dullness, a low uneven pulse, shortness of breath, the head hanging down, and stiffness in the limbs, when the following should be given:

1 oz. of Camphor, dissolved in Spirits of Wine,
 $\frac{1}{2}$ do. Gum-Guaiacum, in Powder,
1 dram Dyaportix Antimony.

Give these in a pint of white wine; but if the disorder continue as in the first stage, give the following:

1 dram of Opium, in Powder,
1 oz. of Camphor, ditto,
1 oz. Gum Myrrh.

If you cannot powder the first two articles, beat them into a paste, cut them small, and give all together in a pint of Valerian tea, or barley-water. If the beast be stiff in its dung, give the following:

4 oz. Epsom Salts,
2 oz. Cream of Tartar,
 $\frac{1}{2}$ do. Jalap Powder,
2 do. Lenitive Electuary.

Dissolve all together in hot water, and give it nearly cold. This disorder is sometimes of long continuance. I have known some have it a month. Sometimes there is such a strong inflammation in the brain as to bring on a mortification, which causes death; and sometimes a slight mortification, which may be called a vertigo. This is chiefly caused by the blood running thick in the vessels of the brain, which are commonly called nerves, and causes a swimming in the head, dizziness, blindness, dullness of hearing, and a stupid disposition. In this case, get some asarabacca, dry it, and rub it to powder, and blow some up the nostrils every day, to get a discharge from them: if you cannot get asarabacca, use Cayenne pepper. After this disorder is abated, be careful of turning the beast out, for fear of a second attack.

North-easterly winds are very dangerous, and often bring on this disorder, as it mostly happens in March and April, when dry winds blow from the north and east; but it is caused by cold sharp winds at

other times, or a sudden change from heat to cold will bring it on. This disorder frequently happens to young beasts, but they will take it at all ages.

THE CROOK.

This disorder much resembles the last, although there is much difference in them in some things, for the crook seizes on the whole frame at once. Sometimes it draws the head to one side, and at others takes away the use of the limbs, or strikes them in the inner parts, which is vulgarly called the heart-crook; indeed the disease begins there, and is caused by a stagnation of the blood, which also causes many other disorders to begin there. The heart is the cistern of the blood-vessels; and the blood being thrown too fast from the cavity of the heart into the arteries, and the arteries throwing it too fast into the veins, they become overloaded: then, when a coldness is brought on the whole frame by cold dry winds, this disease comes on, by which the whole body is disordered, one vessel forcing upon another till a stagnation is brought on.

The Crook in cows begins in different places, and has different effects upon them: some are seized in the head and neck, which draws the neck to one side; they look wild in their eyes; shoot their tongues; slaver very much, and will thrust their heads into any corner, and stand there for some time: others are seized with agonies, or fits of madness at intervals, which are very troublesome: others are seized in their limbs, and brought off their feet. I have known a beast lie seven or eight weeks in this disorder.

First bleed well, and if the neck be drawn aside, bleed on the round side, the contrary side to that to which it is drawn; then give the following:

4 oz. of Mithridate,
2 do. Grains of Paradise, in Powder,
2 do. Flour of Mustard,
2 do. Turmeric,
1 Quart of Ale,
 $\frac{1}{2}$ a Pound of Treacle.

All to be given together, in order to bring heat into the small pores, and to give motion to the whole of the blood-vessels. Again, the beast in the first stage of this disorder will heave much in its body, give great belches, and slaver will pour from its mouth and nostrils. I have always found the last to be a favorable sign; but when its nose is dry, it indicates a strong fever; and if the beast be seized in the limbs, and taken off its feet the first twenty-four hours, you may expect a continuance. Should the disorder continue in the head and neck, repeat the bleeding, and be careful to bleed on the round side of the neck; and if the beast be hard in its dung, which is often the case, give the following:

12 oz. of Glauber's Salts,
2 do. Cream of Tartar,
 $\frac{1}{2}$ do. Jalap Powder,
1 do. Powdered Ginger.

Dissolve the above in one quart of boiling water; but if moderately kind in its dung, give the following:

4 oz. of Burdock Root,
 4 do. Valerian Root,
 1 do. Gum Assafoetida,
 1 do. Gum Guaiacum.

The first two roots to be boiled ten minutes in water, then strain it off, powder the gums, and give all together. You will observe that the animal will often be dry; then pour a little lukewarm water into it, if it will not drink it, and give gruel with a little saffron in it.

In the second stage of this disorder the pulse is low and irregular, and the animal weak; then I wish you to give some nourishing cordial, made of ale, saffron, and a little mithridate, a quart of the first, and two ounces of each of the two last; also, you may give the following, once a day, for two days.

1 oz. of Aniseeds in Powder,
 1 do. Long Pepper, do.
 1 do. Turmeric, do.
 1 do. Cummin Seeds, do.
 1 do. Orrice Root, do.
 1 do. Galengal, do.

To be given all together in warm ale.

The third stage is about two days from the beginning, about which time the beast will be in a recovering way. If it keep on its feet, stir it as little as you can, and let its cordials be comfortable, for it will want support. Should the neck be crooked, sweat it with a sheep's skin, laid with the flesh side to it, for two hours, and endeavor to straighten it as much as you can; but be careful to wrap a horsecloth round the neck when you take off the skin, that the beast get no cold. If it be off its feet, lay it as easy as you can; and if it cannot turn itself, turn it two or three times a day,—the first thing in the morning, and the last at night,—and lay it where it will have room enough.

When it gets strength, let it have room to stir, and to turn itself. If the weather be favorable, lay it on a barn-floor, with the doors open to give it air; but if you have not that convenience, lay it as well as you can. I also advise you to give the following every two or three days, till the beast gets up.

2 oz. of Castile Soap,
 1 do. Nitre, in Powder,
 $\frac{3}{4}$ do. Oil of Juniper,
 4 do. Juniper Berries.

Make the juniper berries into tea; that is, bruise them, put them into a pot, and pour a quart of boiling water on them; let it stand for ten minutes; then clear it off; shred the Castile soap thin, and give all together: this is to clear the gall-pipes by urine, for the greatest obstruction lies there. When the beast is able to turn itself, lay on the following oils, and rub its cuplins, (where the backbone joins the isins,) and the small part of the back. In six or seven minutes after the oils are laid on, the animal will endeavor to get up, and, if it cannot do so, must be assisted. Should this fail the first time, repeat it in three or four days.

1 oz. of Oil of Amber,
 1 do. Oil of Origanum,
 1 do. Spirit of Sal-ammoniac,
 2 do. Oil of Turpentine.

Put all together into a bottle, and shake it up well: lay one half on at a time, and if the beast have laid some time, rub its legs well, to bring warmth into them, and to give circulation to the small vessels. This mixture of oil has risen many a beast that has laid for some time. Mr. John Green, of Draughton, had one that had lain for fourteen weeks at Kettlewell, and it was got on its feet by once rubbing. Mr. Peter Parkinson, of Flastby, had one risen by the same; and if I were to enumerate, I could mention a great many.

AN ASTHMA.

This disorder is attended with shortness of breath, and a frequent hoarse, which causes a waste of flesh, and brings on a weakness in the whole frame; but the beast is worst at spring or fall, or when there are high, cold winds, for the weather has a great effect in this disorder. In summer time, when the herbage is plentiful and full of juice, the weather warm, and the water good, it will do pretty well, but quite otherwise when it has dry meat and cold air. I would advise those that have cattle in this disorder, to feed them, but they must do it in summer, as they cannot in winter, this disease being like the asthma in men, sometimes better and sometimes worse, as the lungs grow larger or smaller; that is, as they draw in more or less air. But change of air will cause an alteration.

The lungs, or lights, are of a spongy nature, and so full of pipes that they can be blown up to a very large size; and as the blood is all refined through them, therefore when it is overheated, and in a bad state, it must of course inflict this disorder; indeed, any other disease happening to the beast increases this, from the blood being refined through the part, which gathers from the blood a superfluous matter, and increases the disorder of the lungs; and they can free themselves from the load which they receive from the blood, only by throwing it up at the nose. Therefore, if you observe a beast that has this disorder, you will often find a tough, glueish discharge at its nostrils.

A beast is not troubled with a fever in this disorder, as in some, except there be a flood of disorders one upon another, which is too often the case. As for a cure, I believe it has baffled all doctors hitherto, but relief may be had; therefore I will lay down the things that I have found to be best for it. I have known the following to be of great service:

2 oz. of Aniseeds Balsam of Sulphur,
2 oz. Spanish Juice,
2 do. Salts of Tartar,
6 Pennyworth of Saffron.

Cut the juice small, dissolve it in three gills of hot water, put the saffron into the pan with the juice, and it will draw the strength out of it the better; when nearly cold, add the other drugs to the liquor, and give all together, milk-warm, fasting, and to fast two hours after; also let blood at the same time. Or, give the following:

1 oz. of Elecampane Powder,
2 do. Liquorice do.
1 oz. Turmeric do.
1 do. Barbadoes Tar,
2 do. Syrup of Garlic

If you cannot get syrup of garlic, get two ounces of common garlic; shred it small, and put all together: to be given in horehound tea, the beast fasting, and to fast two hours after: let blood at the same time. I have known tar-balls greatly relieve this disorder; to make which, do as follows. Mix eight ounces of fresh tar, (Norway tar is the best,) and as much linseed-meal, or rye-meal, as will bring it into a proper state for balls. This will do for four times, and you may give one fourth part every other morning, made into two or three balls, that it may go down the better. Tar-water is also of great service in this complaint; to make which, put a pint of tar into a pitcher, pour a quart of water on it, and let it stand two or three days; then strain it off, and add four ounces of honey: this will do for four times, and give every other day, as above directed. These receipts will cure, if the disorder upon the lungs is only slight, but if of long standing, it will only relieve.

A HOOSE, OR INFLAMMATION BY COLD.

This is a common case in horned cattle, for colds or inflammations, either slight or violent, are often received; either of which causes a hoose, or cough; when the animal looks heavy in the eyes, dry in the mouth, heaves in the flank, loses its flesh, and often gapes, belches, or coughs, loses its cud, grazes little, and its dung and water fly from it in small quantities: although this disorder is well known, yet it is not well understood. Some beasts have belches for some time, much like asthma; therefore, I advise their owners to treat them the same as for an asthma; but for one that is brought on by cold, or bad meat, to give as follows:

1 oz. of Elecampane Powder,
2 do. Liquorice do.
2 do. Honey,
1 do. Balsam of Aniseeds.

To be given in linseed tea, or barley-water, and take a little blood from the beast at the same time. I have often known mouldy hay, or bad straw, bring on this disorder. If your hay be mouldy, it should be sprinkled with water, to moisten it, before it be given; and salt thrown among your hay would be of great service. Limed land is often very pernicious in summer-time, and in some places where people lime their summer pastures, few of their beasts are free from a cough.

A beast that has a cold which has fallen on its lungs, is to be treated in a different manner, for this is mostly attended with a fever; the pulse is quick and strong, the animal heaves much in the flank, hangs its head, and constantly keeps coughing. The first thing to be done is to let blood; and then give the following:

4 oz. of Iceland Liverwort,
4 do. Cream of Tartar,
2 do. Nitre,
2 do. Spanish Juice.

Cut the juice small, boil all together in four quarts of water for five or six minutes, then strain it through a coarse cloth, or hair sieve,

while hot, and give one half to the beast, and the other half six hours after; also, let its food be cooling and opening, and give warm water.

If this should fail of a cure, cut three or four heads of garlic, pour one quart of water on them, boil them about four minutes, then strain the liquor off, and add

2 oz. of Oxymel of Squills,
1 do. Balsam of Tolu,
1 do. Gum Scammony, in Powder,
1 do. Tincture of Saffron,
1 do. Syrup of Marshmallows.

This must be put altogether, and given at twice, six hours' distance; and give boiled linseed for food, with one ounce of nitre, for linseed is both food and medicine for many disorders. If the beast be no better, and the fever continue, let blood a second time, and give two drams of calomel in a little linseed tea: be careful to give warm water, and to keep from cold, when you give the calomel, or it will bring on a heavy disorder. If the disorder will not submit to the above, repeat the last medicine, omitting the calomel. The above medicines are for a middle-sized beast; add or diminish according to age or strength.

STAGNATION OF BLOOD IN A COW'S LEG.

This disorder, which is commonly called a bite by some venomous animal, comes on very suddenly, and much surprises the owner, who left the beast well, and in the course of a few hours it has got a swelled leg,—mostly a fore-leg: it will swell up to the breast, and in a short time a glutinous matter will run from the top to the foot; and if you run your hand down the leg you will scrape a gill of this matter off, which appears to the eye dangerous, but is not so. It is a disease which is neither attended with much danger nor hurt to the beast, which is but little lamed by it, and has not much pain. It mostly happens to cattle in full condition, or thriving fast. As soon as you find it out, let blood, for bleeding will put a check to it, and then give the following as soon as you can.

12 oz. of Glauber Salts,
2 do. Cream of Tartar,
1 dram of Calomel.

Dissolve them in hot water, give the mixture to the beast, and get the following for a wash to rub the leg with.

2 oz. of Extract of Lead,
 $\frac{1}{2}$ do. Sugar of Lead,
 $\frac{1}{2}$ do. Lapis Calaminaris.

Put these to a pint of water, wash the leg well with it, high enough to prevent the swelling going up. When you have given the drink, and let blood, and rubbed the leg with the mixture, the business is done, and you need not take any more trouble about it.

FOR CHAFF IN THE EYE.

1 dram of White Copperas,
 1 do. Sugar of Lead,
 1 do. Lapis Calaminaris.

All in fine powder, and dry them before the fire, as they will turn soft. When they are powdered and mixed, fill the barrel of a quill, put the small end in your mouth, and blow the powder sharply into the eye; and if the eye is not clear in three days, repeat it; but not in less than three days, for fear of bringing on an inflammation.

FOR A LASH BITE, OR STROKE ON THE EYE.

If the eye be red and inflamed, take the following:

$\frac{1}{2}$ oz. of Extract of Lead,
 $\frac{1}{2}$ do. White Copperas,
 $\frac{1}{2}$ do. Lapis Calaminaris,
 20 drops of Tincture of Opium,
 1 pint of White Rose-water.

Powder the copperas and lapis fine, put all into a bottle, and wash the eye well with it every day, taking care to shake the bottle well up. This eye-water is good for either cow, horse, or man.

If the eye continue inflamed, lay conserve of red roses on it, and let it stay on for twenty-four hours; and when you take it off, be careful of cold; then rub with the mixture in the bottle, and there will be little danger of not doing well.

THE YELLOWS, OR JAUNDICE.

This disorder often happens to cattle, and arises from too great a quantity of bile, which forces itself into the blood, and the liver causes the blood to press too much upon the gall-bladder. I need not enumerate the stages of this disorder, but point out how they are known, and how to cure them. It is well known that the Jaundice is an overflowing of the gall-bladder, and the yellowness of the eyes and nostrils will point out the disorder. There is also a constant itching all over the body; and if the beast have any white hair, it will turn yellow; if it give milk, that will also be yellow, and its urine will be yellow, and sometimes almost the color of blood. Its dung will be hard and tough, almost like burnt clay. Cattle in this disorder are not fond of stirring much, it being of a very sluggish nature. These are the general signs by which this disorder may be known.

In the first stage, let blood; and if the pulse be strong, bleed again in twelve hours; and as soon as you have let blood, give the following. A small handful of Barberry-bark, if you can get it; boil it in two quarts of water for fifteen minutes, and when cold, clear it off, and add

2 oz. of Madder, best sort,
 2 do. Turmeric,
 1 do. Venice Turpentine,
 3 do. Castile Soap.

Mix the Venice turpentine with two hen's eggs, cut the Castile soap small, and put all together. If you cannot procure Barberry bark, get a handful of ragwort, commonly called dog-standers, and boil it four

minutes in three pints of water ; then let it stand till nearly cold before mixing. Repeat the above every twelve hours for two days, which will be four times ; for the Jaundice is a disease that will not submit to trifles ; and if it be not removed, there will be danger of the Black Jaundice taking place. If the beast get no better in three days, give the following :

2 oz. of Oxymel of Squills,
4 do. Epsom Salts,
 $\frac{1}{2}$ do. Oil of Juniper,
 $\frac{1}{2}$ do. Venice Soap.

To be given in Barberry bark tea, or celandine tea. Also give gruel made of iceland liverwort and linseed, boiled together in four quarts of water for ten or twelve minutes, two ounces of the former and four of the latter, and strain it through a coarse cloth while it is hot, or you will not be able to get it through ; then mix it up with a little bran and oatmeal. Give it twice a day, and it will be both food and medicine, and if the beast continue, repeat the above medicines on the second day. Some people give wood-lice in this disorder, but I cannot perceive how they can thin or clear the gall of its glutinous matter.

If the animal be not getting better in six days, there will be great danger of the Black Jaundice. When that takes place, the liver becomes hot and dry, the gall becomes dry also, the beast uneasy, and the pulse low, quivering, and irregular ; also, the skin grows stiff and dry, the beast hangs its head, and refuses its meat, and the yellowness turns blackish :—in this case there is great danger. Give the following :

2 oz. of Spirits of Sweet Nitre,
4 do. Syrup of Marshmallows,
2 do. Venice Turpentine,
4 do. do. Soap.

Cut the soap small, and mix all together in juniper-berry tea ; give one half, and the other six hours after. To make the juniper-berry tea, bruise the berries, put them into a jar, and pour two quarts of water on eight ounces of berries ; let them stand till nearly cold, and then strain them through a cloth. Repeat it the day following.

I wish you also to get a good handful of wild carrot, and parsley roots, and boil them in juniper-berry tea, adding two ounces of vinegar of squills : give plenty of this, as there is no danger in it. Also throw up a glyster made of juniper tea and a little sweet oil, which repeat every five or six hours ; and when you have given it, hold it in with a cloth.

In former books little has been said of the spleen, or milt, but in my opinion it is a good deal affected in this disorder, and also in the red-water ; for, being so near the liver, it must of course be overcharged with the superfluous chyle that it receives from the liver and gall-bladder. Some time ago the spleen was thought to be of no use to the creature ; nay, I have heard it affirmed for a truth that it has been cut out of both horses and dogs, and that they have lived without it ; but whether this assertion is to be credited or not, I cannot say ; though I am of opinion that the great Creator of all things made nothing in vain, much less the spleen ; for this bowel is like a sponge, and when the liver or the gall-bladder is overcharged, it receives what

comes from them : but you will say, perhaps, how does the spleen discharge it, seeing it has neither artery nor vein to carry it off? I answer, there are small pipes, but little passes by them, most of the superfluous matter being discharged by heat ; for when a beast is afflicted by the Jaundice, or the Red-water, the spleen is much larger than at other times, and of a greater heat, and sends forth greater fumes. Dizziness, belches of wind, dimness of sight, and even melancholy, are brought on by the fumes which rise from the spleen, when overheated. It forces its fumes into the arteries, and they are carried by the veins to all parts of the body, so that a beast when in the Jaundice turns yellow all over the body. Much more might have been said about the spleen, but let this suffice at present.

THE RED-WATER, AND THE BLOODY URINE.

These must be treated differently, for they are different disorders, so I shall begin with the Red-water. This complaint is very common, but not well understood, and may be known at the beginning by the dung ; for as the gall has a pipe into the small intestines, as well as into the pipes that lead through the kidneys to the bladder ; when the gall is discharged into the small intestines, it causes the animal's dung to be thin ; also, it is forced from it in small quantities about the thickness of one's finger.

At the beginning, the beast holds its water long, so that the disease may not be discovered by those that look at it, but in a few days it stales oftener, and its water is of a dark, bloody color ; its dung grows stiffer, and its water comes in smaller quantities, as the fever increases ; its water will also froth where it makes it, from the heat of its body. The beast is fearful of making water, as the heat thereof is so great that it often brings the skin off the neck of the bladder ; which causes it to make a little at a time, and often.

About the second or third day the pulse is strong, the fever increases, the dung grows stiffer, and the beast looks heavy in the eyes, and begins to refuse its meat. It sometimes happens that a rupture is made in a strong vessel, which takes the beast off in a very short time.

This disorder is most common in summer, when cattle are out at grass ; and some say that change of pastures is the cause of it, but I am certain those will take it that have never been changed at all. Cattle that come out of pastures clear of wood, to others that lie high, where they have plenty of wood to *brog* upon, are almost sure to have it ; and those that come from low fens, or marshy land, to high limestone land, are very apt to take it : but I am certain that the weather has great influence over it ; for I have known long dry seasons, when there have been very few in it, except at the beginning ; but when the weather has broken, and become cold and wet, there have suddenly been many in it. Sudden heat or cold also causes cattle to be afflicted by the Red-water.

High winds, if cold, dry up the pores, and cause the blood to flow more violently in the large vessels, which brings on this disorder. Bad water also forwards it, for when afterwards they come to good, they take too freely of it, which overloads the bowels, and forces them hard

against the midriff, bringing too much weight on the vessels, which causes them to break.

Iron-forge water is bad for cattle, but not so dangerous as low-standing water : also, water that comes from smalt-mills is dangerous, for when they are near a smalt-mill they are always in danger both of the Red-water and of the Belland, or blown in the lungs. Also, cattle that are driven much in hot weather are likely to have the Red-water.

Many more things might be pointed out, but we will turn to the disease, and endeavor to remove it, when it has taken place. If you find the disorder out soon, in the first place, bleed pretty freely ; but if the beast has had it some time, bleeding would cause death.

Some say that bleeding is not proper at all, as the beast is losing blood enough already. So it is ; but that is no reason why it should not be bled ; for, if a man is much subject to bleeding at the nose, bleeding in the arm is the best remedy ; for, if the blood-vessels were not overloaded there would be no bleeding at all. Many proofs might be brought forward that bleeding *in the first stage of this disorder* is almost certain to effect a speedy cure, but if not done *in the first day or two* it must be omitted.

When you find a beast at the beginning of the disease, after bleeding, give one pint, or three gills, of pale oil. I wish all who have cattle in this disorder not to give every medicine that falls in their way, for it is so common that every one has a medicine for it, and if it is not just at hand, they will fetch it from some of their neighbors. In my opinion, many beasts in this disorder are killed by improper medicines. If not sold to the butchers, give to the beast affected,

4 oz. Iceland Liverwort,
4 do. Juniper Berries.

Boil these in water for three or four minutes, and strain off the liquor whilst hot ; when nearly cold add two ounces of Spirits of Sweet Nitre, and give it to the beast ; repeating the dose in three hours if no improvement have taken place.

A person once came to me about a cow that had been four days in the Red-water : I asked him what he had given her : he said "*Many things : and before I came off we gave her a pound of charcoal and a pound of coal-dust in water.*" I told him they had given her enough, and that I could be of no service to him.—Pray would any man of reason think that such a medicine could pass the manyfold, when, probably, the heat of the fever had dried her up already ? Many medicines, offensive to nature, are given, to dry up the pores of the skin : a poor way of proceeding indeed ! What is given in this complaint should be of a cooling, opening nature, such as will thin the gall, and clear the gall-pipes.

It is well known that this disorder takes its rise from the liver, which makes the blood, and forces it into the cavity of the heart, and it is thrown back again to the arteries, and causes an eruption. The gall-bladder becomes much larger than it ought to be, by sucking in the juices of the liver, and by the blood forcing itself into the gall-pipes, which carry the blood and urine to the bladder, from whence it is discharged in the common way. Pray how could the blood and

water be mixed together if that were not the case? Also, the spleen is now as fully engaged as in the Jaundice, in sucking up the superfluous discharge from the liver and the gall-bladder; and this is the reason, that the fever is so strong; for the spleen throwing up its fumes, causes the heart to beat very much, so that, if you lay your hand on the ribs on the left side, you cannot but feel it. The heart lies on the left side, close shut up by a skin-like bladder, with a little water in it; and should this water be dried up, it would soon cause death to either man or beast.

In the first stage of the Red-water, (which is known by its dark color,) bleed well, and give one pint, or three gills, of pale rape oil, as mentioned before; and during the disorder stir the animal as little as you can. If no better the second day, give ten or twelve ounces of Glauber's salt; and if no better the third day, give the following:

2 oz. of good Castile or Venice Soap,
 $\frac{1}{2}$ do. Balsam Capivi,
 4 do. Cream of Tartar,
 4 do. Glauber's Salts.

Cut the soap small, and put all together into linseed tea, and give it milkwarm to the beast: also, give eight, ten, or twelve ounces of Glauber's salts, (according to the strength of the beast,) six hours after. If the disorder be not then abated, give the following:

4 oz. Gum Arabic, (Turkey,) in Powder,
 2 do. Venice Soap, (cut small,)
 $\frac{1}{2}$ do. Balsam Capivi,
 4 do. Epsom Salts.

Give these together in linseed tea, or Iceland liverwort tea, and give the beast cold water if it will drink it; but if not, put a hornful or two into it: also, try it to lick fresh mould. The sweetest mould is to be got in a hedge-bottom, under a hazel bush. If it will lick it, let it have as much as it likes, for such as take fresh mould seldom die.

On the fifth day a glyster, (thrown up every four or five hours,) would be very proper. Make it of rye or linseed meal, and a little butter; not too thick, or it will not pass through the glyster-pipe. After giving a glyster, hold a cloth to the fundament for a short time, to keep it in. Give gruel made of rye or linseed meal, with half a pound of small currants in it, which will be both food and medicine, but do not overload its stomach by giving too much.

I have mentioned the best medicines that I know of, for if I were to enumerate all the medicines that have been got at my shop since I have been in practice, I should fill a large volume; but Glauber's salt, gum arabic, Venice soap, balsam capivi, and cream of tartar, are the best; and if the disorder require it, repeat any of the above. Many will affirm that the last medicine is the best, when it is no such thing; for the first may do good in checking the disorder, while the last does none at all.

A continuance of this disorder brings on a Diabetes, or oppression of urine. When this is the case, give two ounces of spirits of sweet nitre in a little cold water, every three or four hours. Sometimes a violent looseness or scouring comes on, occasioned by the superfluous

matter which is thrown into the small intestines. This is a good sign of recovery, if it be not continued too long ; for nature finds out ways to relieve herself, and many disorders both in man and beast are carried off by a looseness. But you will say, perhaps, that a violent looseness is weakening ; and, the beast being weak to begin with, if it be not stopped it will soon take the beast off. So it will if not stopped ; but to check it give the following :

1 oz. Tormentil Root, in Powder,
 $\frac{1}{2}$ do. Turkey Rhubarb, in Powder,
 1 Pint of Red Wine.

Give all together, at twice, six hours' distance. If the complaint continue, give the following :

2 oz Tormentil Root, in Powder,
 1 do. Japan Earth, in fine Powder,
 $\frac{1}{2}$ do. Dragon's Blood, in Powder.

To be given in a pint of red wine ; and if the beast be not better, repeat it in six hours. A beast that has been much afflicted by the Red-water, and recovers, is often left very weak, with lowness of spirits, a bad stomach, dryness of the skin, a running at the eyes, its belly tucked up, its hide fast, (what is called hide-bound,) and, if it is a milch-cow, with a loss of milk. In this case give the following :

2 oz. Aniseeds in Powder,
 2 do. Turmeric, in Powder,
 4 do. Milderale,
 2 do. Grains of Paradise in Powder,
 $\frac{1}{4}$ do. Saffron.

Give all together in three pints of good old ale, and if it do not work a cure, repeat it in a week. Having gone through most of the heads of this disorder, I must leave it to better judges ; although few can be found who have had more practice in it, and that for seventy years ; but the God that made us does not show all to man at once ; there is a growth in knowledge as well as in grace. I have mentioned only a few receipts, compared with what I might have done, but they are the best that I know of ; and the fewer the better, if they answer the purpose.

THE BLOODY URINE.

This disorder seldom happens to bulls or oxen, nor to young beasts that have not had a calf, but chiefly to cows. In this complaint blood comes with the urine in the same manner as in the Red-water, but of a lighter color ; and sometimes in cakes, as light-colored as blood drawn from the neck. Sometimes the bleeding will nearly stop for two or three days, or longer, and then begin again as before.

I have known cows continue in this disorder for ten or twelve weeks, and then get better of themselves : it kills very few, and those linger away by degrees, without pain. It is attended with no fever, no heat of the body, no danger of morbound, no forcing of urine, nor loss of appetite, unless it continues a long time.

This disorder generally happens in winter, when at dry meat, and has been above a match for abler men than myself, and is likely to be so for many more. Disorders never happen without a cause, but

there has never been a just cause found out for this, that I have read of; and abler men than I am have been at a loss to find it out; but, as the blood comes with the urine, they supposed it must have the same cause, and be the same disorder as the Red-water: but it is not; although many have treated it so till they found out their mistake.

The seat of this disorder is in the kidneys, and it is caused by the breaking of a small vessel there. But how comes this breaking, as it mostly happens in winter, when the weather is cold, and the beast at dry meat?

It may come by bad water, mouldy hay, or any bad meat that presses too hard upon the lungs, and causes a sudden hooze, or cough. I have seen beasts suddenly seized with a cough, which forced their dung and water to a distance from them; and it is likely enough, in my opinion, for the kidneys then to receive a shock sufficient to break a small vessel. Sometimes the stand is too short for the beast, which causes part of the kidneys to hang over the group-edge, and this may be a sufficient cause for the breaking of a small vessel; for the kidneys being tender, much pressure on them may soon do it. Besides, there may be other causes, such as sudden frights by rats, &c. Nothing is more likely to cause misfortunes than being frightened.

This is not to be called a common disorder, but it sometimes happens. The following is often of service:—

3 gills of Black Beer,
2 oz. of Irish Slate.

Give the above, and if it does not cure, try the next.

1 oz. of Japan Earth, in fine Powder,
1 do. Venice Turpentine,
1 do. Gum Arabic, (Turkey,) in Powder,
1 do. Gum Juniper, in Powder.

To be given in tea made of Travellers' Joy, or Robin Hood's Feather, which grows among ling, and runs to a great length;—boys often get it to tie round their hats. If you can get it, boil a large handful of it well in water; clear it off, mix all well together, and give it fasting, and to fast two or three hours after. Repeat it once a day for two days; and if it should fail, try the following:

2 oz. of Tormentil Root, in Powder,
2 do. Bole Armenian, do.
 $\frac{1}{2}$ do. Camphor, do.
2 do. Cumprale Root, do.
2 do. Irish Slate, do.

Give it in tea, as above, if the herb can be come at readily; if not, in oak bark tea; and if these should not cure, you must repeat them, or wait till nature produces a change, for I can inform you of no better. As I said before, it has been above a match for many.

THE MILK FEVER IN COWS AFTER CALVING.

This disorder chiefly happens the day after calving. The pulse is low and irregular, the eyes are dull and heavy, the cow starts, flutters, and staggers till she comes down, and the milk can only be got from her in small quantities at once. This disorder mostly happens when the cow is full in flesh, and may occur at any time of

the year, but is not so dangerous at hard meat as at grass ; one reason for which is that the weather is not so hot. It might be often prevented by bleeding and milking before calving. It never happens to a cow with her first calf, and seldom with the second, but chiefly to great milkers, for few others have it.

People that have a cow which has had this fever, should not let her take the bull again, but feed her, for if she calve and have the disorder again, there is little hope of her mending.

The first thing to be done is to let blood pretty freely, and to lay her as easy as you can. She will soon have a strong pulse, and a high fever, therefore be careful to prevent her being too hot, if in summer, or too cold, if in winter. Cooling and opening medicines are best for her ; such as nitre, spirits of sweet nitre, cream of tartar, &c. Give the following :

2 oz. of Spirits of Sweet Nitre,
2 do. Syrup of Marshmallows,
3 do. Cream of Tartar,
2 do. Salts of Tartar,
2 drams of Emetic Tartar.

Give the above in linseed-tea, or barley-water. Pour a hornful or two of cold water into her every two hours, and let her lie mostly on the milking side, upon plenty of straw, and where there is room to stir ; and draw the paps often, to get what milk you can from them. This disorder lasts two or three days. If the cow can bear under it for two days there is great hope of her getting better ; for in this as well as in the Red-water, people will persuade the owner to give first one thing and then another, when they neither know the disorder nor the medicine ; and I have even known some advise him to get the cow on her feet and to sling her, when she has not been able to hold her head up :—this was a ready way to kill her. Never offer to get a cow up till she is able to stand. Some are brought so low by this disease as not to be able to get on their feet in less than three weeks. You may turn her over every three or four hours after the first day ; and if you give cooling, opening medicines, there will be no fear of her being bound, for that is seldom the case in this disorder.

Many are for giving glysters, and I have known them given in this complaint till the animal has been blown as full of wind as she could hold, which was the direct way to kill her, for the glysters and air must fill the bowels : and yet some of these people call themselves cow-doctors ! It is difficult enough to prevent her swelling, without giving her so many glysters as to cause her to swell. Six hours after you have given the other, give as follows :

4 oz. Epsom Salts,
2 do. Spirits of Sweet Nitre,
2 drams of Emetic Tartar.

This may be given as the last, or in juniper-berry tea. Also, get a pound of juniper-berries, bruise them, and put them into a jar, and pour four quarts of boiling water on them ; let it stand till cold, then strain it off, and give a hornful every two hours, instead of the cold water mentioned before. Juniper-berries are loosening, and for wind you cannot give a better medicine. In thirty-five hours the

fever begins to abate, and there is hope of amendment, but sometimes other disorders are brought on, or the fever returns; and if neither of these should happen, the animal is often left in a feeble state.

As I said before, do not try to get the cow up till she is able to stand. If she cannot turn herself, turn her three or four times a day. When the fever is abated, she will want nourishment: give her good gruel, made of ale, a little water and meal. The following drink will be very useful.

2 oz. of Aniseeds, in Powder,
2 do. Grains of Paradise, in Powder,
2 do. Turmeric, in Powder,
2 do. Caraway Seeds, in Powder,
2 do. Beast Spice, in Powder,
2 do. Mithridate,
 $\frac{1}{4}$ do. Oil of Aniseeds.

Put all together in two quarts of warm ale: give one half, and the other half six hours after. This is a great support, and will help to renew the blood. If the cow do not get up in seven or eight days, rub the following on her loins, especially where the back-bone joins the hind-quarter.

$\frac{1}{2}$ oz. of Oil of Origanum,
1 do. Oil of Spike,
1 do. Oil of Amber,
1 do. Spirits of Sal-ammoniac.

Put all in a phial together, and shake it well up: then rub one half on, and the other twenty-four hours after. In six minutes after you have rubbed the first half on she will try to get up, when give her a little assistance. I have laid down the best method of treatment, and the most proper medicines I know of, but if any thing fresh should occur I must leave it to your own discretion. It is a heavy disorder, and kills many.

A SPRAIN, OR CLAP, IN A BULL.

It is easy to tell when a bull has this disorder: he is restless, and not willing to stir much, is often laid, his eyes are red, he lowers his head, loses his cud, and refuses to eat. You may see his yard swelled, and often out of the sheath; his testicles will also be swelled, and he is not fit to couple with a cow. This disorder is sometimes difficult to remove, especially when in an advanced state. Some will let it alone, supposing the animal will get better of itself, till it turns to a venereal disorder.

The first thing to be done is to throw the beast, and wash his yard, sheath and cods, with the following mixture. If his yard is out of the sheath, it is easy to come at; and if not, rub the mixture well up his sheath.

1 oz. of White Copperas, in Powder,
1 do. Sugar of Lead, in Powder,
1 do. Extract of Goulard,
1 pint of Soft Water.

Wash well with this mixture every other day; and as soon as you have washed once, give the following:

12 oz. of Glauber's Salt,
2 do. Cream of Tartar,

$\frac{1}{2}$ do. Jalap, in Powder,
 $\frac{2}{2}$ do. Nitre,
 1 dram of Calomel.

Give all together in water; put the water to it boiling hot, and give it blood warm. Miss one day, and then give the following:

4 oz. Epsom Salts,
 2 do. Spirits of Sweet Nitre,
 2 drams of Emetic Tartar.

Give these all together in linseed tea, and be careful that the beast gets no cold water for twenty-four hours; and if the disorder happen in winter, you must give warm water all the time it is taking the medicines. If you find the last medicine is removing the disorder, repeat it in five or six days. One pound of Glauber's salt may be given the day after you give the last medicine, which will both carry the mercury off and relieve the disorder; or, if the beast be strong, you may give him twenty ounces of Glauber's salt. If the disease is still obstinate, give the following:

2 drams of Prepared Calomel,
 2 drams Turbith Mineral,
 1 scruple Corrosive Sublimate, in fine Powder,
 1 oz. of Jalap, in Powder,
 2 do. Cream of Tartar,
 $\frac{1}{2}$ do. Bitter Apple.

Boil the bitter apple in two quarts of water, and continue boiling it till nearly half is consumed, then clear it off through a sieve or coarse cloth, and give the above with the liquor, and be careful to keep from cold. When both the heat and swelling are abated there will remain a weakness, and perhaps a running at the end of the pizzle. In this case give as follows:

1 oz. of Balsam Capivi,
 2 do. Spirits of Sweet Nitre,
 1 do. Oil of Turpentine,
 1 do. Gum Copal or Gum Arabic, in Powder.

The gum to be put in warm water, and stirred about till it dissolves; then put in the balsam, stir it up well, and add the spirits, all for one dose. This may be repeated as often as is necessary, for it will cure the disorder in any beast, as I never had an instance of its failure in my practice. Two or three days are sufficient time between any of the medicines; but it may be longer if the disease be not violent. You may repeat the Glauber's salt as often as you find it necessary. I once gave twenty ounces of it at a time, three days together; but proportion the quantity to the strength of the beast, for all my receipts are for a middle-sized beast.

A CLAP IN A COW.

This disorder is of the same nature as the last, but requires different treatment. Some people are of opinion that the bull or the cow cannot have it alone, but that one must receive it from the other. I will not say that this is never the case, but it is oftener brought on by sprains or heat than by infection, for the bull often has it when the cow ails nothing, and the cow when the bull is free from it.

But let us return to the disorder of the cow. At the beginning she

will hold up her tail, thrust up her back, often look backwards, and in summer-time will lay much among rough grass. If you open her barren you will find a little tough matter, and many little blisters; the outside of her barren will also be swelled. By these signs you may discover when a cow has this disease. In a few days the heat will abate, but then it is growing worse to cure. I have known some cows have a running up to the calf-bed, till part of it has been eaten away; and others that have had cancers in their barren from it; but this is caused by neglect, or wrong treatment, and there is no cure for it. The following is a quick and certain cure at the beginning. A cow is much easier to cure than a bull.

10 oz. of Glauber's Salt,
 $\frac{1}{2}$ do. Jalap, in Powder,
 1 do. Nitre, in Powder,
 2 do. Cream of Tartar,
 1 dram of Prepared Calomel.

Dissolve all together in hot water, and give it nearly cold. If in winter, give warm water for two days. Then make a wash of the following, and begin to use it as soon as you have given the above.

2 oz. of Extract of Lead,
 1 do. White Copperas, in Powder,
 $\frac{1}{2}$ do. Sugar of Lead, in Powder,
 1 do. Lapis Calaminaris.

Put all these together in a pint or five jacks of water, let them stand a short time, shake them up well, and then wash the inside of the passage as far as the bladder's neck, which will be about the length of a finger. Wrap a piece of cloth or tow on a small stick, to wash the inside with, and wash the outside at the same time, shaking the bottle up frequently. Wash twice a day till well, and if there be need, repeat the medicine in four days; but the first mostly cures, if given in time, this being a sure and certain remedy.

THE DROPSY, OR WATER TYMPANY.

This disorder is little understood by many, although too well known by some. It seldom happens to the male kind, but is most frequently among cows in low wet land; yet in dry land some have it. Some suppose that drinking too much water causes this complaint; but it is merely conjecture, they have no certain grounds for the opinion.

It is a stoppage in the gall-pipes, which lead from the gall to the bladder, and enter the neck of the bladder, from whence there is a passage between two skins to the bottom, before it enters the bladder. When the pipes are too much forced, or stopped by glueish matter, the urine cannot find a free passage, but oozes out, and in time fills the beast's body; but it is a long while in doing this, especially the first time.

At the beginning of this disorder there is nothing to be seen for some time; at length you will perceive the beast to grow fuller every week for some weeks; and it will neither stand nor lie long at a time, for the water will be a burden to it when standing, and very uneasy when laid, as it presses hard against the midriff, and bears upon the chest till the animal can scarcely get its wind. When the beast can hardly get up or down, or in or out of a door, it is time to cut it.

I formerly cut them on the fore-side of the udder, but of late years I have done it near the back. When you cut the beast, take her into a field, cast her, and dig up two or three sods, for her belly to fall in, also make a small passage out of the place for the water to run away. Cut her where you cut a beast for being swelled with clover, and be careful to keep off the loin. Make a hole large enough to admit a strong finger. You need not be much afraid of cutting, as there is little danger in it, for the water lies just within the inner rind, all on the outside of the bowels. I have got thirty gallons from a beast at a time. When you have got out as much water as you can, get the beast on its feet, and put any plaster on the hole that will stick fast, to keep it from letting air in, and as soon as you can, for it is not like cutting for clover, as then you cut into the great belly, or first stomach, and the wind that goes in can pass through the bowels to the fundament; but the wind that goes in, when cut to let out the water, has no passage, but must return the way it went in.

When you have got the water away, the beast will be very sickly for two or three days, and some do not recover. When you get it to eat again, be careful not to let it have too much water, and feed it as fast as you can, that it may get fat before it fills again. I have known some be twelve or fourteen weeks in filling, but if you can get the beast to be decent beef, never put off to a second operation.

I do not know any medicine that will do good. Some give drinks, but they are of no use except to profit the seller.

INFLAMMATION OF THE KIDNEYS.

Beasts are often subject to this disorder, and it is too often overlooked by their owners. Sometimes, on its approach, it is taken for quite a different disorder. The general symptoms are as follow:—The beast is seized with a trembling all over its body, and has a low, uneven pulse; it will hold up its back, thrust out its tail, and often make water in small quantities; its external parts are sometimes cold, and sometimes very hot; it often moves its hind-legs, and its urine is often high-colored, and sometimes has a little blood in it. If its urine be bright and clear, or of a whitish color, mixed with a few streaks of blood, the disease is dangerous; but, if the urine is of a brown color, it is not so dangerous. The animal's whole frame will be put in motion by sudden startings, caused by pain; and being restless and uneasy, it will refuse its meat, and would often be drinking, though in very small quantities.

Whatever obstructs the blood, in its passage from the arteries to the kidneys, will produce this disorder. Wounds, bruises, abscesses, swellings, hard exercise, sudden heat or cold, or bad water, are very likely to bring it on. When the gall-pipes are stopped by glueish matter, which goes through the kidneys, a stone will be formed, which will cause great pain, and often brings on an inflammation. When the urine is of a dark color, and pains the beast to part with it, with cold sweats, and a quivering pulse, there is great danger of a mortification.

At the beginning of this disorder bleed well, and then give the following:

- 1 oz. of Nitre;
- 2 do. Syrup of Marshmallows,
- 1 do. Vinegar of Squills,
- $\frac{1}{2}$ do. Balsam of Capivi.

To be given in tea, made of parsley roots. This is a safe and certain remedy at the beginning. If the first dose has not the proper effect, repeat it in twenty-four hours.

If the disorder keep increasing, give the following :

- 1 oz. of Balsam Capivi,
- 1 do. Venice Turpentine,
- 2 do. Venice Soap,
- $\frac{1}{2}$ do. Oil of Juniper.

Take eight ounces of Juniper-berries, put them into a pot, and pour two quarts of hot water upon them ; cover them close till nearly cold, clear them through a cloth, and then mix the other articles with the tea. Be careful to cut the soap small, and stir all up well together. Give the beast one half, and the other half six hours after. When you give the medicine, give plenty of warm water to work it off. If the beast will not take the water, give it with the horn.

If its dung be hard, and of a black-brown color, with a gloss on the outside, give ten ounces of Glauber's salts, dissolved in hot water. The urine often changes its color in this disease ; but when it is of a brownish cast, (nearly the color of coffee,) it is most favorable. The medicines here laid down are those most likely to relieve the disorder, but if they should fail, give the following :

- 2 oz. of Spirits of Sweet Nitre,
- $\frac{1}{2}$ do. Balsam of Peru,
- $\frac{1}{2}$ do. Balsam of Tolu,
- 2 do. Vinegar of Squills,
- $\frac{1}{2}$ do. Oil of Juniper.

Get a handful of wild carrots, if you can, and make it into tea, the same way as the juniper tea, and put all together ; then give one half, and the other in eight or ten hours after. Linseed, with a little nitre in it, will be both food and medicine. Take one pound of linseed, boil it in four quarts of water for ten or twelve minutes, then mix it up with a little bran into a mash, and dissolve an ounce of nitre in it while hot.

Be careful to lay the beast as easy as you can, and not to stir it, for it cannot bear much stirring. Keep it neither too hot nor too cold : if it be winter, keep its loins covered with a cloth. The above is the best way of proceeding that I know of, and the medicines are the best and safest.

INFLAMMATION OF THE LIVER.

This disorder is not so common as some, and it seldom happens to lean beasts. It is chiefly brought on by driving in hot weather. When a beast has this disorder, its eyes look red, and water much, and its tongue has a thick white scurf upon it ; its pulse is quick and strong, its body fuller than it should be for what it eats, and slaver runs down from its mouth ; it also groans, and is short of wind, from the liver being swelled and pressing hard against the midriff, and thus straitening the chest. The liver is seated near the heart and the midriff, and

the heart receives the blood from it by the *vena cava*, and throws it back again by the *vena porta*.

The first step to be taken is to bleed pretty freely, and then to give the same medicines as in the jaundice, for this disorder so much resembles the jaundice that it may justly be called a branch of it.

If the fever bring on a costiveness, or hardness of the dung, give Glauber's salts to keep the body open, and let the animal's food be of a cooling, opening nature. Rye-meal and bran will do for mashes; but in summer-time, herbage in the field will answer better than dry meat in the house, for herbage in spring will carry off many disorders; but as it mostly happens to fat beasts, in my opinion it is best to kill them.

LOOSENESS, OR ROTTENNESS.

This disorder is much better known than the method of curing it, and is called Rottenness when it is not so. A slipperiness of the small intestines is brought on by an overflowing of the gall-bladder; for, as I said before, the gall-bladder empties itself into the small bowels, as well as into the gall-pipes. When a looseness is brought on by this means, it may be remedied by proper medicines. Sometimes the looseness will nearly subside, and then a little cold air or white frost will bring it on again with more violence. In order to distinguish this disorder from a real rottenness, observe that the eyes will water much, and sink into the head; the beast will lose its flesh, and sometimes a slimy matter, like skins, will come with its dung; at times the dung will fly from the beast like water, and at others it is stiffer; sometimes the beast eats well, and at others refuses its meat. In real rottenness the eyes are dry, and look as well as at any other time; the skin is dry and stiff upon the back, so that you can scarcely get hold of it with your hand; but on the flank it is thin and loose, and if you take hold of it, you shake the whole. The animal will eat as much as when in health, or more for some time, yet lose its flesh daily; its dung will be thin, black and greasy, and blobs will stand on it.

If a cow be tainted with this disorder before she calves, she will be much worse after calving; and white frosts in the latter end of summer will increase the complaint. I have known cattle bag under the jaws both in the overflowing of the gall, and in rottenness; but the former disorder is the beginning of the latter. The overflowing of the gall causes a slipperiness of the small intestines, and about ten yards of the bowels become like a calf's trundle parboiled, if you will allow me the expression; this part is also thicker and straiter than usual; and the gall being seated on the liver, disorders both liver and lungs. The first thing to remedy this disorder is to keep the animal warm. Young beasts may soon be cured, but old ones are bad to cure. Keep the beast from white frozen grass, potatoes and turnips. I have known bleeding, and powder of oak bark, useful in stopping a flux of the gall; but try the following, for it has stopped it in many.

14 oz. Epsom Salts,
2 do. Turmeric,
4 do. Dried Box Leaves in Powder,
4 do. Bole Armenian,

2 do. Aniseeds in Powder,
2 do. Ginger in Powder.

Take a good handful of sloe-thorn leaves, (if in summer,) boil them in two quarts of water for ten minutes, clear it off when cold, and give all together, fasting, and to fast two hours after. In winter use oak bark instead of sloe-thorn leaves, and repeat this medicine every other day, for three times at least, if the complaint be not cured. Give hay, and warm water, at the time the medicine is taken. A pound of butter, melted in warm water, and given to the beast, sometimes appears to do good; but whether the disorder is mending before the butter is given, I cannot say, for I do not understand how it can do good. Isinglass (four ounces at a time) is likely to be serviceable, for it is of a healing nature, and a good astringent; but should the above fail of a cure, recourse must be had to stronger and more drying medicines, to dry up the superfluous juices of the gall. Then take

1 oz. of Elixir of Vitriol,
2 do. Crabs' Claws in Powder,
2 do. Prepared Hartshorn,
2 do. Prepared Chalk,
2 do. Tormentil Root in Powder.

These to be given in oak-bark tea, and to be repeated as often as needful. The following is often of great service.

8 oz. of Oak Bark in fine Powder,
1 pint of Common Brandy.

Add a little water, and give it to the beast. If these medicines fail, it is doubtful whether any thing will answer the purpose. When there is a bag under the chaps, or jaws, thrust a hot iron through it, and put a small cord through the hole; tie the cord to keep it in; rub it with a little grease of any sort to make it pliable; stir it every day till the matter is discharged, and then pull it out.

TO HELP A COW IN CALVING.

There is often great mischief done from the want of understanding how to help a cow in calving. I here give you the best advice that I can, and I have had very much practice in the business. In the first place, do not be too hasty in your proceedings, for sometimes a cow will have pains on her, and part with a little water, or loosening, and the pain will go off again, and sometimes the neck of the calf-bed, or what is called the yams, will fall down, and give pain to the cow.

I have been fetched a great distance to cows many a time when they were not near calving, and did not calve till some days after; yet, before I went, some had tried much to get their hands into the calf-bed, and could not force a passage; and sometimes people have been so foolish as to endeavor to cut a way to the calf, and those people were butchers too, and ought to have been wiser. Only give time, and the calf-bed will open of its own accord. There are two water-bladders, and sometimes three, to one calf; and when the first comes in sight, and bursts, the cow is at calving. If she cannot part with it, put your hand up to feel if all is right; and if not, endeavor to put the calf right as well as you can. If the calf is right in the

cow, it will have its back to hers, and a fore-leg on each side of its head. When this is the case there is no fear of the cow not parting with it; but even in this case she will want a little help sometimes.

In some cases one foot is right and the other wrong, but be sure to get both feet right before you offer to draw the calf. Be careful to have the back of your hand next the calf-bed, that you may not hurt it with your fingers.

If the cow pain much against you, raise her behind, to give you more room.

Sometimes the hinder parts of the calf come first, with both the hind-feet down: then let some one that is by put his left arm into the cow to find the tail, and put his fore-finger and thumb under it, and thrust the calf into the cow; then you, with your right hand, fetch the feet up, and then it will come as well as with the head first. If the cow pains much against you, your arm will be cramped, except the calf be thrust into her by the other person as directed.

When I first began business I was often put to it, before I got into the way of letting another person thrust the calf into the cow. If you set your back to the back of the man that helps you, and one use the right arm, and the other the left, there will be no danger. Sometimes the head is fallen back, and when you put your arm into the cow you cannot find it: it may be under the calf; in which case, turn the calf over, and then try to find it; and if you do not, raise the cow well behind, that you may be more at liberty. Lay the calf in as good a form as you can, and if the head still falls back, put a crook into the nose, made for that purpose, with the point turned in, in the form of a ring, that it may catch nothing to do mischief. Sometimes the neck of the calf is twisted, but it must be straightened before the calf be drawn.

Sometimes there are two calves, one right and the other wrong. Before you attempt to draw either of them, be careful to get hold of two feet of the same calf. There is little danger of a cow that has two calves not doing well, for they are often smaller than when there is only one. Sometimes there are three calves, and only two got out. In my time I have known this happen several times, and the third has been left in till it has caused the death of the cow. I advise every person that helps a cow to calve, to put his arm in to feel if all is right, and whether she has any more calves in her, and also if the calf-bed is in its proper place; for sometimes it is drawn back to the isin by the navel-string, which I am of opinion is the cause of the calf-bed coming down after calving. Sometimes when you have drawn the fore-part of a calf out of a cow, it will stick at the huck-bones, and you cannot get it any further. When this is the case, never stand with the calf, but cut it in two at the small of its back, and take off the fore-part and the entrails; then thrust the other into the cow again, and turn the feet first, when it will come easy.

When a cow is long in calving, the hair of the calf often gets dry: in that case, grease it well with hog's lard, or butter, and it will pass the isin-bone much easier.

When the calf is swelled, or in a dropsy, *which is the worst kind of calving*, its head is so large that the passage is too small for it, and

its body so much swelled that there is neither room to draw it nor to stir it in the calf-bed. In this case the calf must be stabbed with a lancet, or sharp-pointed knife, in many places, wherever you can get the lancet in. Then give the cow as follows :

1 oz. of Tincture of Opium,
2 do. Spirits of Sweet Nitre.

Bed her well down, and leave her to rest. If she is pretty easy twenty-four hours after, feel if the swelling of the calf is abated ; if it is, you must try to get it from her ; but if not, you must repeat the above medicine, and leave her for twelve hours more. By this method I have saved several cows. As for slipping shoulders, and such things, I can give you no directions : they must be done by those who understand the business. I have had nearly to quarter a calf before I could get it from the cow ; but, as I told you before, never cut the neck of the calf-bed, for cows that are cut mostly die : give it time, and it will open of itself, or it may be opened with your hand.

After a cow has had a hard time in calving, there is great danger of an inflammation coming on, or of the calf-bed falling down ; for she mostly strains herself much after the calf is got away. I advise the following to be given to remove the after-pains.

1 oz. of Tincture of Opium,
2 do. Spirits of Sweet Nitre.

And to prevent an inflammation, give—

oooooooooooo 1 oz. of Peruvian Bark in Powder.

This may be mixed with the last. Lay the cow as high behind as you can, to keep the calf-bed in ; and if the barren swell, as it often does, rub it well with oil of swallows, or oil of elder. If she do not cleanse in due time, give—

1 oz. of Spermaceti,
1 do. Gum Myrrh in Powder,
2 do. Juniper Berries in Powder,
2 do. Bay Berries in Powder,
1 do. Birthwort Root in Powder,
2 do. Aniseeds in Powder.

To be given in cold ale. Much more might be said about calving, but what is here laid down includes most of the common cases.

Some will say that they cannot get into the calf-bed because it is drawn up in consequence of the bull having been clapt ; but, if this had been the case, it would not have caused the neck of the calf-bed to be drawn up, for the venereal process would have been quite different. I have before given the very reason.

It is not often that a milk-fever takes place in a cow that has had a hard time in calving ; but should that be the case, you cannot do better than follow the advice given in that disorder. I advise all not to have their cows in high keep at the time of calving, for there are five fat ones lost to one lean one, and few or none in low condition have the milk-fever. But, should your cow be forward in flesh, be sure to bleed well, and to draw the milk from her as much as you can before she calve ; and by this means you may, perhaps, prevent further mischief.

INFLAMMATION OF THE NECK OF THE BLADDER.

This too often happens, especially when a cow is in high condition, and has a hard time in calving. To discover this disorder, which is not very easily done, observe the following symptoms, which are the most common. The beast is very uneasy at getting up or lying down; it only lies down for a few minutes, and then gets up again, wags its tail, looks back to its hinder parts, shifts its legs to make water, sometimes parting with a little, and sometimes none at all. The water it does part with is very clear, and if you catch it in your hand you will feel it very hot. When the disorder has taken place, bleed well in the neck; and after you have drawn a good quantity of blood, give the following:

6 oz. of Epsom Salts,
 2 do. Cream of Tartar,
 2 do. Nitre,
 2 do. Syrup of Marshmallows,
 1 do. Vinegar of Squills.

Put eight ounces of linseed into a jar, and pour three pints of boiling water on it; clear it off in five or six minutes, and give the above in the tea. Powder the nitre before you put it into the tea. Make the linseed into a mash, and give the cow it for food. Repeat the above in twelve hours. Warm, diluting glysters are very proper, therefore give one every four hours. Concoction of marsh-mallow roots will answer well for glysters; but if you cannot get it, make them of linseed tea. Fomentations will also give ease. If there be a person at hand who understands how to draw the water, it will be very proper to do so. Be careful to give the cow nothing that is heating, and be sure to keep her body open, for if she be bound it will go poorly with her.

Linseed, rye-meal, boiled turnips or carrots, and such things, will prevent her being bound. To give many different medicines, would only be a burden to the owner, and do no good. Parsley roots, boiled onions, wild carrots, nitre, cream of tartar, squills, marshmallows, Castile soap, and such things, are the best medicines I am acquainted with.

FALLING DOWN OF THE CALF BED.

This often happens after calving. When it takes place, be careful to wash the calf-bed well, and remove every part of the cleansing from the roses of it, if they will part easily; but be cautious not to damage the roses, for when the cow is not at her full time, they sometimes part hardly; but you had better leave some of the cleansing on than injure the calf-bed by forcing it off. If the calf-bed have been down some time before it be discovered, (especially in winter,) and is cold, be sure to foment it with milk and water, to bring it to a natural warmth, before you put it up; for if you put it cold into the cow, it will give her great uneasiness, and cause her to throw it down again, and there will also be danger of its bringing a disorder on her.

Some people are so foolish as to put powdered rosin on the calf-bed to keep it up, which way of proceeding is without knowledge; for instead of keeping it up, it is the direct way to cause the cow to throw

it down again ; and reason will tell any man that the cow needs nothing in her calf-bed but what nature formed there.

When the calf-bed is thrown out of the cow, it is something like the lining of a hat when fallen out. When you put it up, have the cow on her feet, oil your hand, put your fist to the lower part of the bed, and when you come at the barren, or what is properly called *labia pudenda*, thrust gently with the back of your hand, and let the lowest part go in first. If you cannot get it in this way, let some one hold the calf-bed up in his hands, and then thrust it in by degrees.

Let that part nearest her barren go in first ; and when you have got it into its place, put your hand into the cow as far as you can reach, that it may not be left double, but be rightly placed. Keep her as high behind as you can, that she may not throw it down again.

It will be very necessary to give an ounce of tincture of opium in a pint of warm ale, to remove her pain.

Another grievance that frequently happens, is the falling down of the neck of the calf-bed. This often occurs when the cow has the calf in her, and sometimes to one that is not with calf. It is easily put up again ; for if you put it into the barren, it will go to its own place, but it is bad to keep there. There are trappings made for that purpose by the saddlers, and I have known beasts wear them for six months together. Some put a skewer, with a hole in the end to fasten a soft band to, across the barren, and then wrap the band round the skewer to tie the lips together, and a cork on the sharp end to keep it from pricking the tail. Some sew the barren up with a leathern strap ; but in that case be careful not to put the stitches too near each other, so as to stop the urine ; but trappings are the safest and the easiest. When the yams come down before a cow calves, she generally has the easiest calving, but there is most danger of the calf-bed coming down.

When a cow's pains are very strong after putting up the yams or the calf-bed, sometimes an awl or pricker put through the skin of her back, and tied with a sharp cord underneath, is a means of preventing her paining so much ; for when she thrusts up her back it gives her pain there, and forces her to yield to the grievance.

I hope the hints that are here offered to the public may be useful to candid readers ; but many headstrong persons are determined to have their way, although their plans are not half so good. I can assure my readers that in many years' practice I seldom found the above experiments to fail ; and I have been fetched nearly twenty miles, when the best judges near the place have failed.

THE SCROFULA, OR SCAB.

This disorder is not very common, but when it does appear it is often neglected. At the beginning, people take it for some other disorder breaking out ; and the old saying is, *It is better out than in* ; but at length the disorder appears to any one that is at all acquainted with the diseases of beasts.

When this grievance is checked in time, it is much better both for the beast and its keeper, for it is a most troublesome disorder. Some may say that it is only a surfeit that is breaking out : so it may ; but such

surfeits bring on the scab. They say, perhaps, that a surfeit and the scab are different things: so they are; but a surfeit may turn to the scab. When there is a heat in the skin, and a dryness in the hair, and the beast is constantly rubbing itself against any thing that is near, you may make yourself sure that it has got this disorder. I have known the complaint continue so long that the neck and back of the beast have been nearly covered with scales.

In the first stage of this disorder, the skin or hide is hot and dry, but the insects soon gather more together, and then it breaks out into little ulcers, when it may justly be called a scrofula. The ulcers will throw out a thin matter, which is very offensive to the beast and to its owner: then the ulcers will turn to scales. You will say—"We cannot see any insects." No, you cannot with your naked eye; but with a glass you may.

If there are many beasts together, the disorder will spread among them all, if not prevented. The first thing to be done is to give cooling, opening medicines, viz.—

1 oz. of Nitre,
1 do. Jalap,
2 do. Cream of Tartar,
4 do. Æthiop's Mineral,
8 drams Calomel.

Give it in a little warm gruel, or beer, three times, two days' distance between each time; or, if it work the beast sharply, let the distance be three days. When you have given the first dose, rub with the following:

8 oz. of Sulphur Vivum, nmmmm
4 do. White Hellebore Root in Powder,
1 do. White Precipitate,
4 do. Flanders Oil of Bays,
3 pints of Fine Whale Oil.

Melt the oil of bays, and mix it with the whale oil; then put the other articles to them, and mix the whole well together. When you rub it on, be careful to miss no part, and it will cure the beast; but if any part be missed, you may rub it with a little sulphur vivum and white hellebore, mixed up with buttermilk. When the disorder is slight, this will cure it. If you have any more cattle that have caught the infection, rub them at the same time: also wash the places they have rubbed against, with quick-lime and water, to remove the infection.

Let me entreat you again to get rid of this troublesome and fulsome disorder as soon as you can, for the longer it remains uncured, the worse it is to cure; and as cattle that have it are growing worse every day, their keep is quite lost. If you rub the above ointment well into every part affected, it will cure the disorder be it ever so inveterate.

If the disorder have not been of a long standing, the following receipt, which is much sweeter than the former, will cure it, without affecting the beast so much.

4 oz. White Copperas,
4 do. Green Vitriol or Copperas,
4 do. White Hellebore.

Powder these ingredients well, and mix them with five pints of buttermilk. With this mixture rub the parts affected; and if any

places appear after the first application, go over them again in the same manner.

LICE IN CATTLE.

I need not say much upon this head, for it is well known to cow-keepers; but one thing I will say,—the sooner you get rid of them the better, for they make a beast always uneasy, and its keep is in a great measure lost. I would advise all that have lousy cattle not to apply quicksilver, for *many a beast has been killed by rubbing six-pennyworth of quicksilver on it to destroy lice*. You may think that a small matter to kill a beast, but I assure you it will. Mercurial ointment, or mercury in any form, does mischief. Use the following, and there will be no danger. Two ounces of staves-acre, in powder: boil it lightly in three pints of chamberlye, and when nearly cold rub the beast well with it. Be careful to rub the powder on with the chamberlye. This quantity will do for a small beast, but a large one will take three ounces of staves-acre, and two quarts of chamberlye.

There are two sorts of lice; the smaller sort are worst to kill; the larger may be killed by snuff, or white hellebore root in powder, or capsico berries in powder, all rubbed on dry; but staves-acre is best for either sort of lice.

THE TURN, OR STURDY.

This disorder chiefly happens to young beasts, but some have it that are full grown. It is known by the beast holding up its head, and chiefly on that side where the bladder lies: it will often turn round, and it walks as if it were blind. This is caused by a bladder filled with water and many small seeds, which lies just below the roots of the horns, between the fore-face and the brain. You may know which side it is on by the beast holding its head lowest on that side, and the bone will also feel softer on the side where the bladder lies.

Sometimes the bladder lies quite under the roots of the horns, and then it cannot be taken out without killing the beast. When this has been the case, I have known it to puzzle some that were good judges of the disorders of cattle, and they have called it frenzy, or inflammation of the brain, and madness, when it was no such thing. If the bladder lie close to the bone in the face, about half way between the eyes and the roots of the horns, it may be got out with safety.

Cut the skin about two inches square, leaving it uncut at the top, and then take off about half an inch of the bone with a chisel; then hold the nostrils for a short time, and the bladder will come out. Do not burst the bladder if you can avoid it, and do not put the piece of bone into its place again, for it will do harm and no good, and the place will fill up with flesh. Put down the skin, and lay on a plaster made of butter and common turpentine: dress the place every other day with it till well, and if the skin do not fasten again, cut it off, and fresh will grow.

It sometimes happens that another bladder forms in the same place; when so, it is easier to remove than the first, as the place in the bone is better to open.

Keep the beast in the house for three or four days, guard against cold as much as you can, and give warm water. It will be proper to let blood, to keep off an inflammation. I have given you proper directions how to proceed in this disorder, but I advise those who have cattle in it to kill them if they are full of flesh, for it is a disease that is seldom cured.

A SLOUGHED OR BROKEN HORN.

This frequently happens among horned cattle, and I should have passed it by had it not been for one reason. *When a horn is broken off near the head, it gets wrapped up with a little tar and tow, and a cloth round them, and very often little or no further notice is taken of it*; but I have known very great grievances caused by such neglect; for sometimes in summer the flies will blow it, and maggots will breed; and the roots of the horn being hollow, the maggots can conceal themselves in the cavities. At other times the end of the horn heals up, and the inside is full of matter. In both these cases I have known beasts become nearly mad, by the brain being inflamed. I therefore advise those who have a beast with a horn dangerously broken, to dress it every other day till well.

Sometimes when a horn is broken in the middle, and is not parted from the coak, the best way is to take the broken part off, when it will soon be well.

When a beast has sloughed a horn, and left the coak on, I have known a very large wen grow on the end of the coak. When this happens, take the horn or coak off with a fine saw, about two inches from the wen; have a wet bladder ready, and as soon as you have cut the wen off, put the bladder over the end of the horn, and twitch it fast with a string round the horn; and you must tie the string round the other horn, as the blood will force it very much. Dress the sloughed horn with tincture of myrrh and yellow basilicon.

Sometimes both horns are broken off near the head: in that case, fix a roller quite round both horns, and let it go under the throat. If this happen in fly time, keep the beast in the house till nearly well.

THE QUINSY.

This disorder is very common among horned cattle of all kinds. At the beginning the beast slavers much, thrusts out its head, its spirits are depressed, and it stirs little about. If it be summer-time, it will be often under the hedges, chewing leaves of trees, and putting them out again; and if you examine, you will find the roots of the tongue much larger than usual; the vives, also, near the ears, are much swelled. When you find that the beast has this disorder, take it into the house, and rub it with the following:

2 oz. of Oil of Swallows,
2 do. Oil of Turpentine,
2 do. Oil of Linseed,
2 do. Spirits of Sal Ammoniac.

Shake them up well together, and rub the beast three or four times

a day, to try to turn the disease back again. Let its food be chiefly meal and water, for it cannot swallow any thing that is hard.

Sometimes the swelling breaks inwardly, and discharges itself at the mouth. When that is the case, the beast soon gets well; but when the matter gathers into a bag at the roots of the tongue, it is very tedious.

I have known a rowel, or a seton, when put into the swelled part, be of great use; but if it will not remove the disorder, you must use the knife. But few people are qualified for that work, because there are the neck vein, the artery, the windpipe, and the gullet, in the part; so that a skilful hand only can perform the operation without injuring any of them. In my time I have cut many, and I do not know but that they all did well.

Some beasts have had a bag of matter at the roots of the tongue, which has not been perceived till they were dead. The bag laid on the upper side of the gullet and windpipe, and was not discoverable either by the eye or the touch.

The Swelling in the Vives, (commonly called the Bur,) is often taken for the Quinsy. This lies between the ear and the roots of the tongue. I wish people to be careful in distinguishing between these two disorders, for the latter is of little consequence compared with the former.

If you have the knife to use in the quinsy, and make an opening into the bag of matter, keep the orifice open with tents made of tow and yellow basilicon, till the matter is discharged. A wash, made as follows, will be very proper to syringe into the wound till it is well.

4 oz. of Spirits of Wine,
1 do. Roach Alum,
 $\frac{1}{2}$ do. Camphor.

Powder the alum and camphor well, then put all together, and let them stand for three days, and then add two ounces of Friar's balsam. This is an excellent wash for any green wound.

For the swelling in the vives, rub well with the following, and the cure will be completed.

2 oz. of Spirits of Hartshorn,
2 do. Sweet Oil.

The Quinsy is not so soon cured; and I am not acquainted with any other medicines, or method of treatment, that will be of service; neither do I desire to fill the book with many recipes, when those that are laid down will do.

INFLAMMATION OF THE STOMACH.

This is a most dangerous disorder, little known to cow-keepers or to cow-doctors. When the disorder takes place, it is known by the beast being too full on the side contrary to that at which you milk; the beast is restless, lying down, soon getting up again, shifting its hind legs, making water often and in small quantities, holding up its tail, and paining itself to dung. It looks wildly with its eyes; and on lifting up its eyelids, you will find them redder than they should be. I have seen the paunch or bag rise and fall again, and continue doing so

for some time. This disorder is often got by eating disagreeable herbs, such as the yew-tree, wild-saffron, deadly night-shade, hemlock, the fox-glove, and other noxious weeds; sour grains also, and the seeds from shelling, will have the same effect.

When this disorder takes place, the first thing to be done is to bleed freely, and then giving six or eight ounces of oil of castor in a pint of new ale, taken from the working-tub. If the oil of castor cannot be had immediately, use a pint of sweet oil for the purpose; and if that be not at hand, give the beast eight ounces of melted butter or hogs'-lard in warm water. If you have any alewort near you, make strong tea of it, and add to one quart of the same, two ounces of salts of tartar, one ounce of nitre, and one ounce of volatile salts, powdered and put into half-a-pint of vinegar, and give this mixture while in a state of fermentation. If this should not effect a cure, give the following:—

1 oz. Yellow Bark in Powder,
1 dram of Camphor,
 $\frac{1}{2}$ oz. of Gum Myrrh in Powder.

The Camphor and the Myrrh to be powdered together, and the whole to be given in a quart of Juniper Berry tea.

If all these take no effect, give a glyster made of a quart of linseed gruel or tea, two ounces of common salt, and two ounces of tincture of opium, thrown up the fundament by a pipe from a bladder.

If then the disorder be not abated, give the following in Juniper Berry tea:

2 oz. Tincture of Gum Guaiacum,
1 do. Tincture of Opium.

Keep the beast warm, and give it a little warm water every two hours.

As this disorder seldom yields to medicine immediately, let there be three or four hours between giving the medicines herein prescribed for it.

THE FOUL IN THE FOOT.

There are so many sorts of Fouls, very different from each other, that I cannot give you proper directions for their treatment unless I mention them separately. I shall therefore explain the five different sorts that are most common.

THE BLOOD FOUL. This comes on very suddenly, and generally happens to a beast that is fast feeding, or to one that is full of flesh. One day it appears well, and the next has a foot much swelled, and is very lame indeed: its claws are thrown a distance from each other; the foot is very hot, and the beast is constantly shifting it. This disorder is often mistaken, and improper drugs applied, such as verdigrise and vitriol, and others that are of a heating, drying nature, which is like heaping fuel on the fire to put it out.

When you find a beast afflicted with this sort of Foul, lay a poultice of turnips and a little oil, or hogs'-lard, on for the first three days: if you cannot get turnips, use rye-meal, or linseed-meal. On the fourth day make an ointment as follows:

4 oz. of Soft Soap,
1 do. Potash.

Beat these well together, and lay them on a pledget of tow ; put it quite through, between the claws ; bind it on with a cloth made for the purpose with two holes in to let the claws through : fasten it on above with a string, or sew it on, that it may stay in its place : let it be on two days, and then take it off and examine the foot well, to see whether there be any discharge of matter, for in six or seven days it will break, and in eight or nine days a bur or coak will come out from between the claws : then lay on a little more soft soap and potash, till you get a clear bottom ; and then apply green salve to heal it. Make green salve to keep for use as follows :

4 oz. of common Turpentine,
2 do. Bees' Wax,
2 do. Rosin,
2 do. Honey,
1 do. Verdigrise,
12 do. Hogs' Lard.

Powder the verdigrise fine, melt all the other articles together, and put the verdigrise in when they are nearly cold, stirring them well, that it may not go to the bottom. This is a good salve for any wound, and should always be kept in readiness. If there are any pipes, or proud flesh, on the sore, eat them down with blue stone vitriol.

Sometimes the Blood Foul breaks out above the claws, and in that case is very troublesome, for it gets among the bones, (as a twitter does in a horse,) and keeps breaking and discharging matter by pipes :—as one heals another breaks out ; and sometimes two or three places discharge at once. When the pipes throw out white matter, eat them out with a little corrosive sublimate about the size of a pea, and wash with the following :

1 pint of Vinegar,
1 oz. of Bole Armenian,
 $\frac{1}{2}$ do. Verdigrise,
 $\frac{1}{2}$ do. Vitriol,
 $\frac{1}{2}$ do. Crude Sal-Ammoniac,
 $\frac{1}{4}$ do. Honey.

Put all together and simmer them over a slow fire for half an hour, stirring them all the time ; then take the mixture off, and put it into a pot for use. This is a powerful drier, and will also cure the Stinking Foul, and the Foot-Rot in sheep, if the feet are kept dry for a short time after. So long as any pipes throw out matter, they must be eaten with corrosive sublimate or caustic ; then wash with the above, and lay the green salve on to heal with.

I have known this complaint continue twelve or fourteen weeks ; and when it does well it remains seven or eight weeks.

There are thirty-two small bones in a cow's foot ; and if they are affected you need not expect a cure very soon : but I advise you to prevent this, by poulticing well, and not using drying medicines at the beginning of the Foul. As this disorder is infectious, you should be careful to keep the beast from others as much as possible ; for if another beast (whether full of flesh or not) tread where the lame foot has just been, it probably will catch the disorder.

THE BONE FOUL. This is a lameness that comes on imperceptibly.

There is nothing to see but a redness between the claws where it should be white, and the foot is also a little hotter than usual. The beast grows more lame every day for eight or ten days, and then you may see a little swelling above the claws, sometimes over one claw, and sometimes over both. In this case, take

$\frac{1}{2}$ do. Oil of Origanum,
 1 do. Oil of Turpentine,
 1 do. Spirits of Sal-Ammoniac,
 1 do. Oil of Amber.

Put all these together into a phial, and rub well the part affected every day, to force the disorder back again. Should it come forward so as to break, you must treat it the same as the Blood Foul. This disorder is not so common as the last, and is not catching; but it has often puzzled both keeper and doctor, and has been taken for a lameness somewhere above, till in time it proved to be in the foot.

THE FROG FOUL. This is a substance that rises between the claws, about the thickness of a finger, and sometimes the skin is not broken at all. It continues for some time, and keeps the beast a little lame. When you find a substance of this kind, cut it off with a sharp knife, and lay on a pledget made of

1 oz. of Soft Soap, and
 1 dram of Corrosive Sublimate.

Mix them well together, and it will serve for two dressings, at three days' distance; and it will be as much as you will want: then heal the place up with the green salve recommended for the Blood Foul. If any proud flesh rise, eat it off with blue vitriol.

I have cut the Frog Foul out with a knife, and sometimes with a red-hot iron about an inch broad, made sharp at the end: this last will take it off as well as any thing, and leave the part curable in the shortest time. There is a vein which feeds the Foul, and which must be destroyed, or the substance will rise again; but be careful not to go too deep.

THE SHAG, or ANGLEBERRY FOUL. These may properly be put together, as they are of the same nature. It mostly takes place at the heel, and spreads as big as a half-crown, almost like a seeded wart; and sometimes it is also on the fore-side of the foot, but not so much as behind; and it is generally on the hind-feet. This disorder, as well as the Stinking Foul, is owing to the blood being in a thin, bad state, and is much like the grease in horses' heels.

Bleed pretty freely, and give a Felon drink; then touch the place with oil of vitriol every third day till better. This Foul soon disappears, but some beasts that have bad feet are troubled with it at times all their lives, especially during a long wet season in summer, or after standing in the house dirty.

Some people turn their cattle out in winter to water where there is much dirt, and I do not know a readier way to bring on this complaint. I advise all cow-keepers to mend the roads to their watering-places, when needful. It would be much better for cattle if people would use their reason, for that would inform them that *a beast must be more comfortable when standing in the house clean and dry, than when daubed up*

to the knees with dirt. Sensible people would consider that a beast can feel as well as themselves. If they get their feet wet or dirty, they do not think it proper to sit or stand so; and it is the same with the beast. If I had a beast in the house in winter, I would carry it water, rather than turn it out into the dirt, if I could not mend the road to the watering-place. Some people have it not in their power to remove this evil of bad road without being at a great expense, materials being at a considerable distance; but some have them at hand, and neglect to do it; and I may justly add, it is much to their shame to see an evil and not to remedy it when they are able.

THE STINKING FOUL. This is easily cured by drying up the juice that springs up between the claws. If you use the wash that is recommended for the Blood Foul, it will cure it by three times' washing; and if you have not that ready made, two pennyworth of *egyptiacum* will do it; or a little verdigrise mixed up with tar and butter; or a little blue stone vitriol, dissolved in water. Any of the above, well washed on, will cure the Stinking Foul.

LAMENESS.

When a beast has been a long time lame, the claws grow long, and are very troublesome to it, so that I advise you to cut them. Take a block of wood, put the foot upon it, and with a mallet and chisel strike off as much as you think needful.

Sometimes gravel works down into a beast's foot, as it does into a horse's, and must be cured in the same manner; but a horse's foot and a cow's are made quite differently; for in a horse's foot the rims or shelves in the inside of the hoofs turn upward, which causes the gravel to go up and out at the top; but a cow's turn downwards, and when the gravel gets in it stops there; so that a cow is much better to cure.

Beasts are often lame in summer; sometimes it is caused by flies, and at others by riding another cow, when in bulling; for they will come off on one side, and leave the other on the cow's back, and either nearly tear the shoulder from the body, or put it out of joint. When the shoulder is out of joint it stands off from the beast. Put a cord round the foot, and draw it under the beast's belly; and if it comes down on the lame side, its weight will force the joint in again.

If the lameness be in the cap-bone or the udder-joint, you must try whether the cap be shifted in the stifle-joint or not. (Sometimes the tendon is thrown on one side.) When lameness is caused by any of these accidents, the part must be put right before you can expect a cure. Rub any part that is disordered with the following:

1 oz. of Oil of Origanum,
1 do. Spirits of Turpentine,
1 do. Spirits of Sal-Ammoniac,
1 do. Oil of Amber.

This mixture is what is called the *Strong Oils*; it is very penetrating, and is good for many kinds of lameness. There is another mixture, commonly called the *Horse-bottle*, which is made of the following:

Oil of Origanum,
 Oil of Turpentine,
 Oil of Swallows,
 Oil of Worms,
 Oil of Spike,
 Oil of Petre,
 Spirits of Wine,
 Opodeldoc.

Two or three pennyworth of each, as the buyer may think proper. This mixture has been much esteemed in the west of Yorkshire, but I do not think it calculated to do much good: neither the spirits of wine nor the opodeldoc will mix well with the oils; and oil of spike and oil of petre are not much different from oil of turpentine. In my opinion, the following mixture is much better:

$\frac{1}{2}$ oz. of Oil of Origanum,
 $\frac{2}{3}$ do. Spirits of Turpentine,
 $\frac{1}{2}$ do. Oil of Bricks.

Mix these together, and they will be found very good for a sprain. A beast's hide is so strong that it requires a sharper mixture to penetrate it than that of a horse.

WOUNDS.

As for Wounds in general, there can be little said about them by way of directions, but a few recipes may be of use, and be a help to the cow-keeper.

Much depends on the nature of the part where the wound is received: if it is a fleshy part, endeavor to keep the lips of the wound open: if it is a bony part, keep them together. The *udder joint*, and the *pope's eye*, are the most dangerous parts. If the wound is near either of them, draw a few stitches through the skin to keep the lips together, and to prevent the cold air from entering. In three or four days the wound will begin to matter; and if the pus be white, mixed with a little brown, it is a favorable sign; but if it be a brown, glueish matter, with a clear lye the color of vinegar, it is a bad sign.

Sometimes a beast gets staked, or another beast pushes its horn into it. In these cases search the wound to the bottom, and if nothing be in it, syringe the following into it; which is proper for any fresh wound.

2 oz. of Gum Benjamin,
 2 do. Gum Styrocks,
 2 do. Gum Myrrh,
 2 do. Gum Guaiacum,
 2 do. Aloes,
 1 do. Balsam of Peru,
 1 do. Balsam of Tolu,
 2 do. Frankincense,
 4 qts of Rectified Spirits of Wine.

Powder those that will powder, put the whole into a bottle, and let it stand for five or six days, often shaking it up. This is an excellent mixture for green wounds, and also to take inwardly for the Cholick in either man or beast. It is nearly the same as what is sold in the shops by the name of Friar's balsam, balsam of life, balm drops, and tincture of benjamin. You may reduce the quantity as much as you please. Tincture of myrrh is made as follows:

2 oz. of Gum Myrrh,
1 do. Aloes,
1 quart of Rectified Spirits of Wine.

Mix these as the last, and the mixture will cure green wounds. I need not mention any more tinctures, for you can have no better than the above ; and as for salve, that which is recommended for the Blood Foul, and yellow basilicon, will answer every purpose for green wounds.

When a wound has been some time in healing, proud flesh will appear ; this you must eat off with precipitate, lunar caustic, or blue vitriol ; and be careful to keep the beast in the house, and to give it warm water. When the wound is dangerous, let the tow be clean, and of a good quality, such as is called surgeons' tow.

Sometimes a beast gets a push on the body that breaks the inner rind so that the bowels come through, leaving the skin whole : if the hole be large enough, there is little danger ; but sometimes it is small, and receives part of the bowels, which fill with wind and sediment so that they cannot get back ; which causes a twitching in the inner rind, and brings on an inflammation in the bowels. When this happens, there is no remedy but by cutting the skin a little above the wound, putting the bowels back again into the body, if it can be done, and making the hole in the rind larger either before you put the bowels in or after, being careful not to cut the bowels. Some pretend to sew up the rind, but this cannot be done so as to answer any good end ; but you must sew the skin close after having had to open the rind to let the bowels pass. When there is a sufficient opening made in the rind, the bowels will lie in the skin, and grow less and less as the rind closes up. Lay on a plaster made of wheat-flour and whites of eggs, which will stick faster than any salve you can get.

Cancers sometimes happen to horned cattle, a cure for which can hardly be expected. Therefore, when you see any appearance of a cancer, I advise you to feed the beast as soon as you can ; for if you were to get it cured, the remedy would perhaps be worse than the disease. Cancers generally take place on the fundament, or barren, or on the lower chap. To recommend any thing for the cure of them, would perhaps do harm instead of good.

There is often a lameness in the whole bone of the buttock which is frequently overlooked till the flesh fall or "pine off," as the expression is. A gristle keeps the cup-bone in its place ; but if that gristle be broken, the bone leaves its socket, and often falls down into the fleshy part, when no good can be done : but if a sprain, or a bruise or a cut, be caused to the animal, you may rub the part affected with the mixture according to the first recipe here given for wounds, every two or three days. I would caution you again about the *udder joint*, as it is the most liable to disorder. If the cap or stifle bone be displaced, the beast goes quite lame. If that bone be thrown up, endeavor to force it down again ; if shifted inward, try to put it outward. The leg should be put down and brought forward to the fore feet. When the bone is got into its place again, lay on a change of strengthening plasters.

INFLAMMATION BY WOUNDS.

It seldom happens that an inflammation takes place after the fifth or sixth day from the time of receiving the wound ; but a gangrene may come on ten or twelve days after. There is, however, a great difference betwixt an inflammation and a gangrene ; the former being a great deal more dangerous. An inflammation brings on a mortification, and then death. If an inflammation take place, rub the part affected with the following :

1 oz. Oil of Spike,
 $\frac{1}{2}$ do. Oil of Origanum,
 1 do. Spirits of Sal-Ammoniac,
 $\frac{1}{2}$ do. Oil of Amber.

This mixture often puts a stop to the progress of the inflammation. I have known fomentations, made of the following, of great use in checking this disorder :

4 oz. of Camomile Flowers,
 4 do. Juniper Berries,
 2 drams Oil of Mint.

Boil the flowers and the berries four or five minutes in two gallons of soft water. Take it off the fire, allow it to cool a little, and then put in the oil of mint. After that, put two flannel cloths into the liquor, take one of them out as hot as you can conveniently bear it, and hold it for ten minutes to the part affected ; then change that cloth for the other in the warm and fresh state, which apply in the same way for the same time ; and continue the applications for two hours, keeping the liquor pretty hot all the time. When you take the last cloth off the place, rub it dry, and wrap a dry cloth round it. When the wound begins to madder, the danger is over.

To remove a gangrene, take two ounces of blue vitriol, an ounce of roach alum, and powder them both together ; mix them with a pint of water, and wash the part affected once a day.

ANGLEBERRIES, OR ANBERRIES.

These are more troublesome than dangerous. In summer, cattle are made very uneasy by flies, and are so busy driving them off that they have not sufficient time to eat and rest ; therefore it is no wonder that they grow thin of flesh and are subject to this disorder. It may easily be cured at the beginning ; for, before the angleberries or warts grow strong, you may pull them up with your thumb nail ; only be sure to put your nail close to the bottom of them, then put your forefinger close to your thumb, and give a sharp twist, and the seed will come out like a white pea. I have pulled many off the paps and other places in this manner. When they are neglected, they grow very strong, and then other methods must be used. Take a pair of clams, such as gelders use, have the beast down, and put the clams just to the bottom of the angleberries, have a red-hot iron ready to sear them with, and you may either cut them off with the knife or with the iron. Be careful to keep the clams fast till you get the place seared, for if the angleberry be strong, the vein will be strong also.

Some angleberries are very dry, and not much higher than the skin ;

then you may kill them with soft soap and corrosive sublimate, as is recommended for the frog foul ; but tie a small sharp cord tight about the roots of as many as you can, and they will die away. Oil of vitriol or caustic will destroy many. Sometimes they are so near the eye that you can put nothing on them but soft soap and sublimate, and you must be careful of it that none may get into the eye.

People have often young beasts with angleberries on their paps, and do not think of it till they are near calving, when there is not time for the angleberries to be taken off and the places to heal. I have known beasts have so many that I could not tell where the paps were ; and in my time I have taken a bushel off at a time, and only got one half for fear of the beast losing too much blood. When there are so many they stink so as almost to suffocate one. It is a great shame for people to be so negligent : it appears as if they neither respected themselves, their cattle, nor their families.

THE GARGIL.

This is mostly brought on by cold from sudden changes. Sometimes in summer the weather is very hot, and a thunder shower causes the air to turn cold, and this change affects the whole body. A beast in this disorder slavers much, hangs down its head, looks red in the eyes, is sometimes seized in a limb, or in both the hind-quarters, trembles much, is not fond of stirring, throws up its back, and its hair is dry, and stands nearly upright on its back ; and no wonder, for the sudden cold has nearly stopped the circulation of the blood, which causes the pores of the skin to be nearly dried up. The first thing to be done is to bleed well, and to give the following :

2 oz. of Grains of Paradise, in Powder,
1 do. Galengal, in Powder,
1 do. Ginger, in Powder,
2 do. Turmeric in Powder,
2 do. Mithridate,
2 drams of Saffron,
1 oz. of Aniseeds in Powder.

All to be given in a quart of warm ale ; but should the disorder fly to the lungs, and bring on a hoarse or cough, give the following :

2 oz. of Spanish Juice,
2 do. Liquorice Powder,
2 do. Elecampane in Powder,
2 do. Honey.

Cut the juice small, and dissolve it in a little hot water, and give the above all together in linseed tea, barley-water, or sweet wort.

Violent colds bring on many disorders, and are often the forerunners of the Quinsy, the Felon, and the Grass Fever, or the Felon in the bag and the limbs ; so that I advise every cow-keeper that has an opportunity, to house his cattle when a sudden change of weather takes place about midsummer, or between that and Lammas, in order to prevent disorders, for they are easier prevented than cured, and especially the Grass Fever. I am fully persuaded that sudden heat or cold brings on most disorders ; for if you consider how fast the blood circulates when the body is hot and the pores of the skin all open, and

how a sudden cold wind and rain stops the motion of the blood and chokes up the pores, you will not wonder that other disorders follow.

How many disorders are brought on by neglect, I cannot determine ; but I am certain that many might be prevented that are not.

THE FELON, OR HIDE BOUND.

Many disorders that go by this name are nothing of the kind. Too many pretend to know something about a cow who know nothing about this complaint, but give other disorders the name of Felon ; and some make four kinds of Felon, viz. Hide-bound Felon, Heart Felon, Water Felon, and Cripple Felon, or Felon in the Limbs. This is chiefly for want of knowing the disorder. Let me again beg such false pretenders to be silent, and when they know nothing to say nothing. If such people would deliberate a little before they give their opinions, I believe many of them would be silent, unless they should honestly say they did not know what was the matter with the beast, and then they would tell the truth. In my time I have known hundreds of cattle killed by following the advice of ignorant people ; and have even known many cow-keepers that would give advice to others, and yet could not trust their own cattle to their own judgment ! It appears to me that such people want to learn something at their neighbors' expense, which is not *doing as they would be done by*, nor *loving their neighbors as themselves*.

The following are the symptoms of the Felon, or Hide-bound. The beasts hide is stiff, and not good to get hold of ; it loses its flesh, walks stiff in its limbs, its eyes look dim, and water ; its hair stands straight on its back, and it neither eats nor drinks so freely as it should do. When you find a beast in this state, you may be sure it has the Felon ; and I shall lay you down a few recipes for the cure of it. The following is for a strong beast.

2 oz. of Beast Spice,
1 do. Turmeric,
1 do. Powder of Aniseeds,
1 do. Canary Seeds in Powder,
2 do. Ginger in Powder,
2 do. Grains of Paradise in Powder,
1 do. Diapente,
1 do. Sweet Fennel in Powder,
1 do. Mithridate.

This is what is called a Felon-drink for a strong beast. All must be mixed together in two quarts of ale, with a little treacle ; to be given fasting, and the beast to fast three hours after ; and give the beast a little warm water before it gets cold. The following drink is not quite so strong, and will answer for most beasts of common size.

4 oz. of Flour of Mustard,
1 do. Beast Spice,
1 do. Diapente,
1 do. Aniseeds in powder,
1 do. Sweet Fennel in powder,
1 do. Caraway Seeds in powder,
1 do. Mithridate,
2 do. Powdered Ginger.

To be given in three pints of ale as above. The next is for the same purpose.

4 oz. of Mustard,
 4 do. Powdered Ginger,
 4 do. Beast Spice.

To be given as above. The next is called a common Felon-drink.

2 oz. of Beast Spice,
 1 do. Ginger.
 1 do. Aniseeds,
 1 do. Long Pepper.
 1 do. Diapente,
 1 do. Fenugreek,
 1 do. Turmeric,
 1 do. Mithridate, or Venice Treacle,
 1 do. Grains of Paradise,
 1 do. Galengal,
 1 do. Caraway Seeds.

To be given in three pints of warm ale, with a little treacle, fasting, and to fast two or three hours after. Give a little warm water before you turn the beast out to the cold. To a very small beast give half of the above.

A herb drink for the same purpose is made as follows. Take four ounces of felon wood; horehound, featherfew, peppermint, wood betony, agrimony and rue, of each a small handful; boil them in three quarts of water for eight or ten minutes, and when nearly cold strain the liquor from the herbs, add two ounces of mithridate to the liquor, and give it to the beast. Any of these recipes will cure the disorder if the drugs are good, and I could lay down many more, but I do not mean to clog the book with recipes, for no better can be had than those that are here.

Many people affirm that there is a worm in the beast's tail, and cut it, pretending to take out the worm. This is a mean juggling trick of pretenders: they say there is a soft place in the tail which is occasioned by the worm, and affirm that if the beast's fore-teeth are loose, it is a certain sign that it has the worm in the tail. I assure my readers that there is no such thing as a worm in the tail, but there is sometimes a gangrene, or canker, in the tail, brought on by the Hide-bound or Surfeits. As to the teeth being loose, they are never fast, and are more loose when the animal is poorly. The tail of a cow has many joints in it, and runs smaller to the bottom. Within five or six inches of the end there is a small soft place, between the lump at the tail-end and the bone, that is, where the bone ends; and there it is that false pretenders work their deception. There are four leaders or tendons, that reach to the bottom of the tail, and also four veins that go just between the tendons, the strongest of which is on the under side of the tail. Hold the tail up, cut it lengthways, and put a skewer underneath the strong vein, between the tendons, and you may draw the vein out three or four inches long: if you break it off and lay it upon any thing that is cold, it will stir and appear like a worm. Putting a setter in the tail (about four inches from the barren) is very useful when there is a gangrene in the tail. You may know when this is the case by the hair falling off, and the tail being crooked, and I have known it eat the tail off; yet it is easily cured by cutting the strong vein on the inside of the tail, next to the body. When you cut the vein, rend the skin with a skewer, and put a little bearsfoot,

or docken root, and a little salt and butter, into the place, and sew a cloth round it, but not too tight, for the tails of many beasts have been taken off, and some above the fundament, by cutting the bone, or tying the bandage too tight.

THE FELON.

This mostly happens at the end of July, or in August, to cattle that are feeding. Milch-cows, oxen, and heifers that have never had a calf, are liable to it. I have known heifers have it to such a degree that one quarter of the udder has dropped out. I need not describe the complaint, which is so well known; but I will remark that there is a strong fever at the beginning.

Bulls and oxen are chiefly affected in the limbs, which causes lameness. The first thing to be done is to bleed well. Some graziers are against bleeding, but they are mistaken, for both reason and experience tell us that bleeding must be proper at the beginning of a fever. If you bleed and physic your cattle every ten days when the disorder prevails, it will prevent many having it, and such as do take it will have it more mildly. At this season of the year high winds and cold rains are very frequent; and it often happens that, when the weather is very hot, a thunder-storm changes the air very quickly. At such times those who have an opportunity to house their cattle, especially during cold rain, should do so. When you find a feeding beast (not a milch cow) afflicted with this disorder, bleed well, and then give the following :

1 oz. of Jalap Powder,
8 do. Flour of Sulphur,
2 do. Cream of Tartar,
1 dram of Calomel,
1 do. Tartar Emetic,
1 do. Cinnabar of Antimony,
2 oz. of Powdered Ginger.

Mix these all together, and give them in a little linseed gruel or onion pottage. This recipe is well calculated to cool and abate the fever, and to thin the blood. Glauber's salt is also a fine cooler:—in three or four days give twelve or fourteen ounces of it, and two ounces of saltpetre, dissolved in hot water, and given nearly cold. Repeat either of these as you find it needful: the first of them is one of the best yet found out for this disease, and the last is of great service.

Draw the curdled matter from the bag, if you can; but if you cannot, and a discharge is wanted, take hold of the end of one of the paps with a pair of pincers, and cut off about a quarter of an inch with a sharp knife, which is much better than slitting a pap as many do. When a beast is very lame it lies much, and when the grass is wet this is hurtful to it; therefore in wet weather it would be much better in the house. If the carpal joints in the hindlegs are much swelled, rub them with the following mixture, which is often of great service.

2 oz. of Oil of Turpentine,
1 do. do. Origanum,
1 do. Spirits of Sal-Ammoniac,
1 do. Oil of Bricks,

I have also known this mixture to be of great use in dispersing the jelly that lodges in the joints.

When a milch-cow has got the felon, the above mixture may be applied to the limbs, but you must not give the same medicine as before, nor cut the end off the pap, but draw the curdled milk out of the bag as much as you can, three or four times a day : then give the following ;

2 oz. of Cow-Spice,
1 do. Long Pepper in powder,
1 do. Yellow Bark in powder,
2 do. Nitre in Powder,
2 do. Venice Treacle.

Give it in three pints of warm ale, fasting, and to fast two or three hours after. Bleed well, and if the blood is dark-colored and thick, bleed again the day following, and repeat the above drink. Should the cow be costive, give ten or twelve ounces of Glauber's salt, and one ounce of jalap powder, in warm water. If the fever continue strong, give two ounces of Peruvian bark, and two ounces of nitre, in a little warm ale.

It is difficult to describe every stage of this disorder, as the symptoms vary much in different beasts. If a cow refuses its meat, has a low pulse, and has not much fever, nor is costive, but has much oppression of spirits, give the following.

1 oz. of Turmeric,
1 do. Grains of Paradise,
2 do. Powdered Ginger,
2 do. Flour of Mustard,
2 do. Tincture of Bark.

Give the above in three pints of black beer. You will find it a comfortable cordial, which will strengthen the cow and help to renew her blood, and you may repeat it as you find it needful.

A DRINK FOR CLEANSING A COW AFTER CALVING.

1 oz. of Spermaceti,
1 do. Gum Myrrh,
2 do. Juniper Berries,
2 do. Bay Berries,
1 do. Round Birthwort Root,
1 do. Galengal.

All to be brayed in a mortar together till small enough. Mix them in three pints of cold ale, and give it fasting, and to fast two hours after. It seldom fails to bring the cleansing from a cow ; and if the cleansing has come away you cannot give a more proper drink after calving, for it helps the discharge from the calf-bed, which is commonly called fye, and both causes the cow to milk better and to take the bull sooner. Many people take the cleansing from the cow, but I advise all cow-keepers never to suffer it to be done, for I have known much hurt done by it, but never any good. If it could be done with safety, I should know, as I have had as much experience as most people. It is true the cleansing may soon be taken away, but I say again, *it cannot be done with safety*, as no man can reach with his arm to the far end of the calf-bed ; and if a person gets hold of the navel-string, and draws gently till the cleansing comes away, he does

not know whether he pulls the calf-bed back or not, nor whether the roses have parted with the cleansing or not; and it is seldom that such pretenders are at hand just when the calf is drawn; and can it be proper to force their hands into the calf-bed some hours after? *No man of reason would attempt such a thing.* The Lord and Maker of all things has provided nature with sufficient powers, and has not ordained man to work against him.

Some people are so sparing of their money, that rather than part with one shilling they will run the risk of losing a pound, and rather than be at the small expense of a drink, will let the cleansing rot from the cow. This is a great folly of short-sighted man, for he loses five times as much in the end, and does the cow a great deal of hurt; nay, in my time I have known scores of beasts lost by niggardly, covetous people, who would be at no expense with them when disordered. I wonder that God permits such earthworms to have cattle, for they not only hurt themselves but the public at large.

A DRINK FOR DRYING A COW.

Be careful to bleed pretty freely at first, and to take half of the milk out of the bag twice a day for three days, and once a day for three days more; then give the following:

4 oz. of Common Alum,
4 do. Roach Alum,
2 do. Dragon's Blood;

All in fine powder, to be given in hop-water. This mostly takes away the milk at once giving: if not, repeat it in four or five days. Should the ure be full of milk, draw a little out, to ease the bag.

FOR A COW THAT IS SLOW IN TAKING THE BULL.

4 oz. Cummin Seeds.
2 do. Eringo Root,
1 dram of Cantharides,
2 do. Cayenne Pepper,
1 oz. of Ginger.

This is commonly called a bulling-drink. First take the eringo root, bray it well before you put the other things into the mortar, and then powder all well together, and give it in three gills of warm ale the last thing at night: turn the cow out in the morning, and most likely she will be in heat the day following. Sometimes four ounces of cummin seeds, powdered and given in the milk of a cow that is in bulling, will answer the purpose. To a young cow give only half a dram of cantharides with the other ingredients; or, give the following:

4 oz. of Cummin Seeds,
1 do. Cayenne Pepper,
1 do. Long Pepper,
1 do. Ginger,
 $\frac{1}{2}$ dram of Cantharides.

Powder them well together, and give them in the same manner as the last. This is much easier to the beast, and mostly answers the end. In very cold weather there is no certainty of any thing answering the desired end; but I advise the cow-keeper not to force too

strongly with cantharides, for then the cow will not hold her bulling ; and I have known cows continue in bulling for some time after. The last drink is very safe, and the cow will hold her bulling never the less for it. The first is for a strong cow.

PICKING.

When this grievance spreads among a number of milch-cows, it is very troublesome ; for, besides the loss, the owner is kept in continual anxiety of mind.

When you see a cow likely to part with her calf, separate her from the others as soon as you can, if you have convenience ; and as soon as she has parted with it, give her the cleansing drink, for this is an infectious disorder, and most of the infection is conveyed by the smell ; and the longer the cleansing is in coming away, the more the air is infected, and the more the contagion spreads,—sometimes over a whole village. I advise you to put tar upon the noses of your cattle when this disorder prevails, and to burn stable hay, dried assafœtida, or wormwood, or to sprinkle spirits of tar, or any thing to make a strong smell, about the cow-house, which keep as clean as possible, and whiten with quick lime. If you get any fresh cattle, they will soon take the disorder. In order to help to remove the infection, give the following drink, and repeat it as often as needful. The times when a cow is most likely to part with her calf are at eighteen, twelve, nine, and six weeks from her regular time of calving. Give the drink at each of these times except the nine weeks, and bleed at the same time.

4 oz. of Bole,
2 do. Irish Slate,
1 do. Tormentil Root or Comfrey Root,
1 do. Madder,
1 do. Prepared Chalk, or Crabs' Claws.

Powder all these, mix them in a quart of water, and give it fasting, and to fast three hours after, and bleed well at the same time. If proper care be taken as advised, and the drink be repeated as directed, you will soon get rid of the disorder, as I am of opinion that there is not a better drink found out than the above, therefore more recipes are needless.

Some people are so foolish as to go to a witch-doctor when they have cows in this complaint :—they give him some money, and he tells them some frivolous tale, such as that some person that wishes them bad luck, or looks upon them with an evil eye, lives at such a distance from them, and that there is a water to cross, and a tree growing not far from the house ; and more such nonsense, which they guess the meaning of as well as they can, and which causes them to have a hatred to the person they suspect, which never wears off so long as they live ; and that without occasion, as he is not guilty of the crime. This I have known to be a real fact, for the same people have applied to me afterwards, and had the disorder removed by the above medicine.

OBSERVATIONS ON THE TREATMENT OF SICK CATTLE.

Great care and good management are essentially necessary to the recovery and well-being of sick cattle. Without these, in vain may medicines be administered. At the first attack of any disease, solid food should be sparingly given them, and a tolerably warm cow-house receive them. A beast in perfect health has generally more than eighty pounds weight of solid food in the stomach, which of course requires time for digestion.

When a beast is afflicted with any disorder, attention should be paid to the chewing of the cud, and to the manifold, where many a fatal disorder has its seat. Oatmeal gruel seasoned with salt and a little butter, given at the rate of two quarts every four hours, is sufficient support for cattle when afflicted with a disorder. Glauber's salts and nitre have a good effect: eight or ten ounces of the former and of the latter to be given in linseed tea once a-day till they recover their cud. Juniper berries are also of great use in recovering the cud; for which purpose they should be given whole into the mouth, to the grinders, five or six times a-day.

Cattle in most diseases are fond of fresh mould, in which you may indulge them, being careful to get your mould under a hazel bush, where it is the sweetest. Let them lick their full of it, for it will never hurt them. A hornful or two of fresh mould and salt may be safely given to a beast which has lost its cud; which in that state very often prefers bad hay rather than good, and you may then let it eat of it as much as it will take.

Linseed tea, with a little butter put to it, is a valuable mixture in almost any disorder. Malt mashes may be safely given when the beast will take them. Bran being often of a very bad quality, is seldom fit to be given to a sick beast; and meal-dust and rough seeds are still more dangerous; for I have known many cows and horses lose their lives from the use of dust and meal-seeds.

It is sometimes hard to find out the disorder of a beast. In all cases examine its breath. If it be strong and offensive, give tea made of bitter herbs, such as wormwood, trefoil, tansey, sanctuary, chamomile, pennyroyal, or of some part of them, which will strengthen the stomach and cleanse it. When a beast is taken ill, and the disease is not properly understood, give gruel made of linseed, or of Iceland liverwort, with an ounce of nitre; after which the disorder may be found out, and proper medicines applied. If the beast be unable to get up, never sling it, which is unsafe, and often proves fatal to the life of a valuable animal. The surest indications of good health in cattle, are liveliness in all their motions, the hide loose, handling kind in the ribs, a good dew on the nose or nostrils, stretching themselves on rising, and chewing their cud regularly.

OF BLEEDING.

Bleeding is necessary and of essential service when the legs of cattle are swelled, and when their eyes look heavy, of a dull red, and inflamed: it is equally necessary when they are too highly fed, in which

state they are induced to rub off their hair. The bleeding should also be used in all inflammations, fevers, bruises about the eyes, and sprains when accompanied with inflammatory symptoms.

As things in themselves good, under certain restrictions, may become evils of great magnitude if carried to excess, it is necessary to prescribe bounds to bleeding; for it is extremely hazardous to bleed when the spirits are too much exhausted or weakened, and nature is unable to bear the least evacuation: and further, it is most proper to bleed by measure, and most to be depended on; and experience warrants me to say that, in most cases, not more than two quarts of blood should be taken away at once; repeating the operation as circumstances may require, and avoiding the evil into which some foolish people run, by bleeding every day for eight or nine days together, and thereby at length taking away the life of the animal.

ON HERBS.

Of these, some are binding, some are loosening; some are heating, and others cooling; one herb hindering another, when used by ignorant persons, from having the proper effect for which it was designed by the great Author of the vegetable kingdom.

There are many disorders which may be cured by the judicious application of herbs; which, with roots, minerals and waters, after passing through many operations, form the ingredients of a druggist's shop. Herbs and roots should be gathered in summer, when the herbs are in full bloom. I shall here give you the months when they flower, the signs they are under, and the uses to which they may be applied.

FOR THE FLUX IN A HORSE, A BEAST, OR A MAN.

There are two sorts of Flux; the one called the White Flux, and the other the Bloody Flux. All loosenesses do not arise from the same cause; some being brought on by heating and cooling suddenly, others by improper food, and many by the overflowing of the gall. Inflammations of the liver are certain to enlarge the gall, when the pipes that lead to the small intestines bring on a slapeness, and cause a looseness.

Gather the following herbs, roots and barks, when you can get them: they are not all required at one time.

FOR THE WHITE FLUX.

Take a handful of the black thorn bush-leaves, flowers and small stalks, which are all binding. Gather in May or early in June; under the Sun. Tormentil, under the Sun, flowers throughout summer; and the root of it is most in use, and one of the best known, for this disorder. Wash the root clean, dry it in the oven, bruise it in a mortar, and give three or four ounces at a time to a large beast, and proportionally less to a small one, in tea made of the black thorn bush.

Flux Weed, under Saturn, flowers in June.

Flea-Wort, under Saturn, flowers in June and July.

FOR THE BLOODY FLUX.

Comfrey, under Capricorn, flowers in June and July. The Oak is under Jupiter ; and its leaves, bark, and acorn cups, are all in use for this disorder, either in powder or made into tea. Traveller's Joy, or Robin Hood's Feather, creeps among ling on moors, running from joint to joint, five or six feet long, and is fit for use throughout the year.

FOR THE YELLOWS, OR JAUNDICE.

Barberry Bark, under Mars ; Madder, under Mars, is ripe in July and August. These to be given in Celandine tea.

STALING OR URINE BALLS.

Parsley, under Mercury, is a strong and powerful herb, for dissolving the stone. Wild Carrot, also under Mercury, is ripe in August and September. The Juniper Bush is a solar herb ; its berries, which are most in use, being three years in ripening : the first year they are green, the second red, the third black, and the fourth grey and worthless. Six or eight ounces made into tea, is a dose for a cough or shortness of breath in a cow or a horse.

Hedge Mustard, under Mars, flowers in July, and keeps green all the year long. Horehound, under Mercury, is an useful herb. Liquorice is also under the same planet, its roots being most in use. Wild Marjoram, under Mercury, flowers in the end of summer. Pellitory of the Wall, under Mercury, is found in old walls, in most places, and is of singular use. Hyssop is under Jupiter.

Make some or all of these into strong tea, and give two pints at a time twice a-day.

FOR RED OR BLEND WATER.

Fox-Grass is under the Sun ; Figwort is under Venus ; St. John's Wort is under Leo ; Groundsel is under Venus. Take all or part of the above, and make into strong tea. Give one quart a time, twice a-day.

THE BLOODY URINE.

Horse-tail is under Saturn ; Five-leaf grass, or Cinque-foil, is under Jupiter ; Water-flag is under the Moon ; Fumitory under Saturn. Make into strong tea, and give a quart at a time twice a-day.

FOR THE CROOK IN COWS.

Burdock is under Venus. The root of this herb is most in use, cut small, boiled in water, and given all together. Sow-Fennel, or Hog's-Fennel, is under Mercury. Lady's Thistle is under Jupiter.

FOR FRENZY IN THE HEAD.

Valerian Root, under Mars ; Ragwort, commonly called Dogstanders, under Venus ; Butter-Bur, or Cluts, under the Sun ; Wood Sage, under Venus. Make strong tea, and give two quarts a-day.

A PURGE OR OPENING DRINK.

Mountain Flax, under the Sun ; Whacker-Grass ; Bryony, or Wild Vine, under the Sun. Make into tea, and give one quart at first, and a pint every hour till it work.

FOR THE HIDE-BOUND, OR FELON.

Agrimony, under Jupiter ; Balm, under Jupiter ; Wood Betony, under Jupiter ; Angelica, under the Sun ; Rosemary, under the Sun ; Rue, under the Sun ; Saffron, under the Sun ; Horse-Radish, under Mars. Make strong tea of part of the above, and give a quart at once twice a-day.

FOR POULTICES AND FOMENTATIONS.

Chick-Weed, under the Moon ; Elder Tree, under Venus, the tops only being used ; Marshmallows, under Venus ; Chamomile, under the Sun ; Brooklime, under Mars.

TO STRENGTHEN THE STOMACH.

Wormwood, under Mars ; Trefoil, or Buckbean, under the Moon : Sanctuary, under the Sun ; Chamomile, under the Sun.

DANGEROUS HERBS.

Deadly Night-shade, under Saturn ; Hemlock, under Saturn ; Yew-tree, under the Sun ; Foxglove, under Venus ; Jew's Ear, under the Sun ; Wild Saffron, under the Moon. These herbs being full of deadly poison, can be used by those only who are well acquainted with medicines.

FOR DRYING A COW FOR FEEDING.

I would not advise you to attempt to dry a cow from the first of August to the first of October. When you begin to dry a cow, mis-meal her for a week or ten days : and when you do so, leave one half of the milk in her bag ; for if you draw her clean you will do little good by mis-mealing her. When you have proceeded in this way, bleed her freely, and give the following in cold water.

4 oz. powdered Alum,
2 oz. powdered Roach Alum,
2 ounce Dragon's Blood in Powder.

If this draught be thought too expensive, the following may be given in cold water :—

4 oz. common Alum, in powder,
4 oz. of Prepared Chalk, in powder,
2 oz. of Bole, in powder.

If after the above course of medicine, the bag of the cow be too much charged with milk, draw a little out of her bag for a few times ; but most cows may be turned out after being bled and receiving one of the draughts, without danger.

Some cows are liable to scatter their milk, or to milk themselves, which is very troublesome. To get quit of their milk, some people

cork up their teats with small pieces of leather taken from the belly of a dintel hide ; but this is not a good practice, for it very often inflames the bag, and does harm. If the bag be rubbed with the following drying mixture, it will do good, and help to keep off inflammation.

2 oz. Extract of Lead,
2 oz. White Copperas,
3 oz. Soft Water,
 $\frac{1}{2}$ oz. Spirits of Sal-ammoniac.

Mix all together. As a drying wash this will be proper at any time when the bag is inflamed.

THE LAKE, OR MAW-BOUND.

This disorder is brought on by fevers, as I have said on the Red-Water. I therefore need here only give a few of the best recipes which I know for effecting a cure. Take

13 oz. Glauber's Salts,
 $\frac{1}{2}$ oz. Jalap in powder,
 $\frac{1}{2}$ lb. Small Currants.

Put all together in hot water, and give when nearly cold. If Glauber's Salts cannot be had, Epsom Salts may be used instead ; but the former's preferable, being stronger.

If this should fail, give ten ounces of Castor Oil with two ounces of Syrup of Buckthorn, in a little new ale,—the newer the better. To a strong beast twelve or fourteen ounces of Castor Oil may be given as above.

Glysters are very proper at some times ; but if the beast be swelled do not give it a glyster ; for by applying a glyster while the beast is swelled, great harm may be done by forcing into it an immoderate quantity of wind. Instead of glystering while in that state, let some person thrust a soft and delicate hand, well greased with sweet oil or soft soap, up the fundament, and take out all the hard muck that may be found as far as the hand can reach therein.

I have known beasts so fast bound up in the third stomach, that I have been under the necessity of giving them quicksilver. I once had a cow in this state under my care, to which I had given a variety of medicines, during seven days, to force a passage, without producing the desired effect. I then gave her two ounces of quicksilver, which soon found its way through her, when she discharged much ; but I believe the effect was partly caused by the medicines before used, which found their way with the help of the quicksilver.

I would again remind those who have the management of cows, to be careful to give them some opening medicines while affected with fever of any kind, at the first onset of the disorder, especially in the Red-Water. Many foolish persons give drying medicines to a beast in the Red-Water, and do not consider that they are thereby drying up the juices, instead of keeping them free and open.

DIRECTIONS FOR REARING CALVES.

When a calf is newly calved, take the slimy substance out of

its mouth and nostrils; then examine whether the navel-string bleeds too much. Should the navel-string have been left too long, tie a thread fast round it, close to the belly; then cut it off near the thread, and put the navel up into the body as much as you can. The next thing is to give a little senna tea, or cream of tartar; but senna is the best, as cream of tartar is apt to turn sour on the stomach. This is to clear the stomach and intestines of the slime that lies in them, before it becomes a hard substance. Many calves are lost by neglecting this. One pennyworth of senna is sufficient; but if the calf be open in the body, none need be given.

Many medicines are given in this disorder, as in others, that are of no service. The Flux is much alike in all animals as to its nature, but reason will inform any man that a young calf cannot bear a medicine so strong as a cow. If breeders would give the following soon as they find a calf in the White Flux, I am of opinion that few would be lost in it.

1 oz. of Bole, in powder,	
1 do. Tormentil,	do.
1 do. Aniseeds,	do.

Mix them well together, and give one third of the mixture to a weak calf, or to a strong one give half, in oak bark tea, one hour before you serve it, or two hours after, and give a meat spoonful night and morning till better. Twice giving generally cures, but if not, give a third or a fourth time.

Although the Bloody Flux is nearly the same disorder, yet it requires different treatment. It is mostly brought on by the White Flux, but not always, for it may be caused by licking sand, or by heat in the bowels. The inner coat of the bowels sometimes comes with the dung, which is mixed with blood, skins and slime; taking away the calf's strength much sooner than the White Flux.

In both these diseases tincture of rhubarb is a great healer of the bowels, and I consider it as good a medicine as can be given to man or beast for disorders therein. The dose may be from one to two ounces, and repeat it in six or eight hours. A small calf should have one ounce, and a large beast one pint. Isinglass, dissolved in hot water, is of great use in the Bloody Flux. Powdered logwood and gum arabic are great astringents, but tormentil root is one of the best in the whole catalogue of drugs, as I have known it cure many people of a Flux, or Looseness, after they had been under the doctors' hands some time:—the dose is from half a dram to a dram, to be taken in a glass of red wine three or four times a-day. Indeed, tormentil root and tincture of rhubarb are the best things I know for removing a Looseness, or Flux of the bowels; but the medicine recommended for the White Flux seldom fails.

Calves are liable to a disorder, which is caused by the milk curdling on the stomach. When this happens, there must be sudden relief, or it will cause sudden death, and it has killed many. The milk curdles in the second stomach as hard as blue-milk cheese, and sometimes cannot be removed. Oil of castor is the best thing that I know of for this disorder. Give.

2 oz. of Oil of Castor.
2 drams of Senna.

Boil the Senna in one pint of water, strain it off, and put the oil of castor to it, and give them to the calf, taking care to give it no milk while the disorder remains. This complaint is easier prevented than cured. Sometimes the cow's milk is the cause, but that is when she is disordered herself. It may happen to a kit calf, in consequence of its milk being given too hot, which is the most dangerous case of all : but this may be prevented by mixing an equal quantity of linseed pottage with its milk. By so doing you will find your calves to thrive much better than with milk alone, for linseed is both food and medicine to young calves. They seldom ail any thing if they have plenty of it, and you may bring up twice as many with milk and linseed as with milk alone. Linseed cake is cheaper than linseed, but is not so good. If you take an equal weight of linseed, linseed cake, and back ends of wheat, and grind them all together, you will have good pottage for calves, and at a little expense.

Calves should neither be kept too fat nor too lean, for in both cases they are very liable to disorders. I advise Breeders to keep them dry, and well bedded, so long as they have them in the house, for lying wet often brings on the *Cripple Felon*, properly called *Lumbago*, which is a lameness in the joints, with a little swelling, and keeps shifting from one joint to another, and from one leg to another, and continues some time. The best remedy I am acquainted with is to setter them in the dew-lap; and if you can get the setter to run well, it will be of great service; but if not, put a seton in any part you can, only avoid the joints. The way to put a seton in is as follows. Make two holes in the skin, about two inches distance, put a skewer in at one hole and out at the other, draw a small soft cord through, and tie both ends together. Rub the cord with common turpentine, to make the seton discharge better. A seton is often of great use in cases of lameness in different parts of beasts, and also in swellings. When you have put either the setter or the seton, or both, into the calf, give the following.

$\frac{1}{2}$ oz. of Tincture of Gum Guaiacum.
1 do. Turmeric,

To be given in a gill of warm ale, and repeated every other day for three or four times, or as long as you see it necessary; but give none till the setter or seton runs.

If you do not think proper to use a setter or a seton, give the following.

2 drams of Jalap Powder,
2 do. Gum Guaiacum,
20 grains of Calomel.

Give the above in warm ale as the last. These are the likeliest things to be of service, but the disorder often continues very long, sometimes ten or twelve weeks, which renders the cure worse than the disease. If a calf be pretty full of flesh at the beginning of this complaint, it is best to take it to the shambles.

Another complaint that calves are subject to is having too large a navel: this is chiefly owing to the navel-string being too long in

breaking, or to catching cold where the navel-string enters the body ; and sometimes it is caused by drawing the navel-string so tight that it breaks the inner rind, and causes the net to come into the skin. When you find a calf disordered in the navel, mix

1 oz. of Oil of Turpentine,
1 do. Spirits of Hartshorn,
1 do. Oil of Bricks, or Sweet Oil.

Rub every day with it, and keep the calf warm. Some are so foolhardy as to cut the calf, and put the net in again, and then sew up the rind ! This is a sure way to kill it, for in three or four days the stitches will give way, and the bowels come down. The above mixture seldom fails to cure the disease ; indeed it would perhaps get better of itself, unless it came to matter and broke, in which case there would be great danger ; but the mixture is to scale it away without breaking.

Sometimes calves have *Convulsion Fits*, and sometimes a *Locked Jaw* also. When this happens you must bleed well, and give plenty of valerian root tea, with a little saltpetre and assafoetida in it ; and foment the calf's head well with chamomile, or the tops of elders, or both. Sometimes oil and spirits of hartshorn will answer the end. When you foment, or rub with the mixture, endeavor to open the mouth, that the tendon may give way. There is not a greater grievance to any thing than convulsions, for every tendon is drawn when in the fits, and if the animal mend it is often lame or stupid.

THE HYAN, OR MURRAIN, has killed more young beasts than all other disorders, and yet is the least understood. No cattle-doctor or cattle-keeper that has lived either in my time or before me has ever found out a cure for it. Attempts have been made, and many things tried, but without effect ; and I have tried many things myself. I have cut holes in the skin, about four inches from each other, all round the affected part, and rinded one hole into another, like setting a net round the part, to prevent it spreading ; and then put in oil of turpentine and oil of origanum, softened with a little oil of elder. This has stopped the disorder in some, and they have mended of it, but it has left other complaints as bad, or worse.

The symptoms of the Hyán are these :—The calf lies much, and is lame in one quarter where a swelling appears ; and if you tap it with your fingers, it will sound hollow like a bladder. The calf hangs its head, refuses its meat, and looks dull in the eyes : sometimes the complaint begins in the nostrils, and runs up into the head, and makes the calf blind ; and sometimes in the back, and kills it in a short time. Whenever the disease begins, the calf cannot live above a day or two ; but if it strike the jugular vein, it soon causes death.

The Hyán seldom takes place before the calf is six months old, and I advise all calf-breeders to give the following medicine at six, twelve, and eighteen months old. Very few calves have it before six months, or after two years.

This disorder is infectious ; therefore, as soon as you find a calf in it, remove the others from it : and when it is dead, the safest way is to bury it as soon as possible, with the skin on ; for if you take the

skin off, there is great danger of spreading the disorder. As far as it has gone you will find a mortified blackness under the skin, and if you cut the part affected while the calf is alive, it gives it no pain. I shall now give you one of the best medicines to prevent the Hyan, but not to cure it when it has begun. You must not think it has begun as soon as the calf has received the infection, for it will be ten days first. For one calf take—

One dram and a half of Crocus metallorum, or Liver of Antimony; half an ounce of dried Buck-bean; half an ounce of Guaiacum chips; half an ounce of Sassafras; half an ounce of Gentian Root; half an ounce of Juniper-berries; half an ounce of Saltpetre.

The above (except the crocus metallorum) to be boiled in three pints of water for ten minutes, and to stand till cold; then strain it off, and put the crocus metallorum to it. Give the liquor to the animal fasting, and to fast three hours after, and bleed well as soon as you have given the drink. This medicine (as before observed) is to be given at six, twelve, and eighteen months old. I have made some hundreds in a year, for thirty years, and none of the calves that took them have had the Hyan, except such as had not the medicine given them in due time. Not one calf need be lost between six months old and two years, if people would be careful to give them this medicine, and the expense is so little that I only charge sixpence a drink for them. I have known farmers that bred twelve or fourteen calves in a year, and generally lost five or six; but after they got the above medicine they scarcely lost one for twelve or thirteen years.

THE END.



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